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Comparative Foreign Aid Analysis: Replacing the Competition Between Donors with Complementary Aid Policies

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Abstract

Foreign Aid has been a topic of study for decades with few concrete findings on whether it is effective or not. Contemporary foreign aid is divided into two camps: the West and China, with little cooperation and plenty of politics between them. In this thesis I analyze the effectiveness of Western aid and Chinese aid in twelve sub-Saharan African states using annual HDI scores and GDP. I find there is a strong correlation between Western aid and the development measures used as well as cases where Chinese aid is more effective than Western aid. With these findings, I argue that when Western and Chinese aid complement each other, rather than compete with the other, there is opportunity for greater aid effectiveness.

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1. Introduction

Questions surrounding a state's formation and development go back centuries. From formations of new governments to the establishment of strong economies and the introduction of globalization, how a state develops can impact more than just its citizens. Today, competing views on this debate have resulted in the establishment of two main camps of how foreign aid should be provided to support development. In the West, the focus is put on humanitarian improvements and neoliberal policies, while aid from China primarily focuses on economic and infrastructure development. However, as I will argue in this paper, there is a better way to approach foreign aid that incorporates insights from both sides and promotes complementary aid policies with the potential to achieve greater effectiveness.

The literature and studies of current aid policies are focused primarily on the motivations of aid donors and effectiveness of Western aid on specific sectors in a state. There has been little work done on the comparative effectiveness of development aid from the West and China within the recipient states. This thesis aims to fill that gap by investigating twelve states in sub-Saharan Africa which have similar histories and have received aid from China and the West and compare their individual development changes over the span of 18 years. By comparing these long-term outcomes and the effectiveness of the two main donor camps, this study can help to shed some light on how the West and China compare in their aid policy outcomes and suggest a more complementary approach to aid policies that incorporates aspects from both sides and identifies cases where the flow of aid from both China and the West can lead to greater development growth in economic and human development.

This thesis is laid out as follows. In the first review relevant literature exploring the foundations and development of the Western and Chinese aid models, studies on aid effectiveness and then engage with the arguments for integrating policies or implementing trilateral cooperation efforts in existing policies. Then I will discuss my hypotheses and the study's contribution to the field, followed by a discussion of my research model and methodology, an analysis of the statistical results and an interpretation of the results within the context of specific development factors and case studies. To conclude the study, I will discuss the impact these results can have on the field of aid policy research and development and make my argument for a more complementary approach to foreign aid policy.

2. Foundations of Foreign Aid and Its Effectiveness on Development

Africa has had a long history of colonialism, independence movements, and interstate conflict, and is a place where both the West and China have special interests which have resulted in both sending billions in investments and development aid. Most of the aid into Africa has been well documented and studied from many different angles. As a continent with many states that are still considered developing, and which holds much of the world's natural resources, it has a very strategic place on the global stage. From this standpoint, aid to the continent has been primarily studied through the strategic interests and motivations of the aid donors, with a stark dichotomy of viewpoints emerging between the West and China.

The effectiveness of development aid is a question that has been circulating since the start of foreign aid policies in the post-WWII years. By the 1960s, research into the effectiveness of these policies really began to take off (Rosenstein-Rodan 1960; Griffin and Enos 1971; Burnside and Dollar 2000, 2013) and have yet to come to a solid conclusion on whether or not aid policies work. Work done in trying to understand the efficacy of Western aid have produced evidence-backed results ranging from arguments that aid works, aid does not work, and aid has no significant impact on a recipient state.

2.1 What is Foreign Aid?

Today, many look to the Development Assistance Committee (DAC) of the Organisation for Economic Cooperation and Development (OECD) for the definition of what development aid is. They define official development assistance (ODA) as "flows to states and territories on the DAC List of ODA Recipients and to multilateral development institutions that are:

i. Provided by official agencies, including state and local governments, or by their executive agencies; and
ii. Concessional (i.e., grants and soft loans) and administered with the promotion of the economic development and welfare of developing states as the main objective. (OECD 2021)

OECD also says that military aid and the promotion of the donor's security interests as well as agreements with primarily commercial objectives are not to be considered ODA (OECD 2021).

While the OECD is influential in the realm of foreign aid, China is not a member. There are a number of reasons for this including the types of foreign investment China sends to a recipient state their lack of free-market principles in their policies. As I will discuss later, China seeks mutually beneficial agreements, including transactions with commercial objectives for the Chinese government and firms, when developing their aid policies and agreements. Along with this focus on mutually beneficial agreements, China is also not very transparent in their practices, protective of intellectual property, and has many government-owned enterprises throughout the economy, with trade managed by government leadership (Runde, McKeown and Askey 2020).

From a more theoretical point of view, the definition of aid has evolved over time. Early on it was seen as the flow of resources into a state regardless of who the donor was. This was later changed to indicate that aid was exclusively the flow of resources between two states. This definition was again changed to incorporate the goals and concessional terms that are often associated with aid programs today (Ali and Zeb 2016).

The two major donors today, the United States in the West and China, have released their own definitions of official development aid. In the U.S. Foreign Assistance Act of 1961, it states that "[b]ilateral assistance and United States participation in multilateral institutions shall emphasize programs in support of states which pursue development strategies designed to meet basic human needs and achieve self-sustaining growth with equity" (Foreign Assistance Act of 1961 2019, 2). China, on the other hand states that their foreign aid, or international development cooperation, refers to "China's bilateral and multilateral efforts, within the framework of South-South cooperation, to promote economic and social development through foreign aid, humanitarian assistance, and other means" (China International Development Cooperation Agency 2021, 1). The major difference between these two definitions is the role of the donor. The United States puts requirements on their aid that align with the West's view of how a state should develop as well as place an elevated level of importance on human rights and human development. Along with other Western insitutions, whether explicit or not, there is a North-South relationship with many aid recipients. In contrast to this, Chinese aid focuses on South-South relations and is based on the principle of mutual benefit. For example, China provides economic assistance to support a natural resource industry in a recipient state, and benefit from getting access to those natural resources in return.

2.2 Foundations of Western Aid

Often, Western aid is the default when discussing or research aid policy and outcomes. Insitutions and agencies like the International Monetary Fund (IMF), World Bank, United Nations and its associated agencies, along with national agencies, such as US Agency for International Development (USAID), are major actors in the Western Aid model.

In their article “Foreign Aid: Origin, Evolution and its Effectiveness in Poverty Alleviation,” Ali and Zeb (2016) provide a clear overview of the evolution of aid policies since the 1940s. Western aid developed out of the institutions set up at the end of the Second World War including the Bretton Woods economic system and the United Nations. Aid policies had a macroeconomic goal in mind, where donor states would supply capital investment and technical assistance to struggling states to help them recover from a crisis, lift their populations out of poverty, or put the state on the road to economic development. At this time, it was believed that economic development would put these states on the road to greater overall development in the future.

One of the first successful Western aid programs was the Marshall Plan, which laid the groundwork for future aid policies and programs. Between 1948 and 1952, the United States sent over $13 billion to Western Europe to rebuild following the Second World War, amounting to over 1% of the United States’ GNP (Yunker 2014, 38). For some context, the Marshall Plan, or the European Recovery Program, was established to help rebuild the European economy and society and support European unity. The program introduced a counterpart currency that could be used to import from the American market as long as the European currencies were not convertible, as well as physical aid sent to Europe as food, raw materials, and industrial equipment and vehicles (OECD 2008). The effects of the Marshall Plan are still felt today through the close relations the United States has with Western European states.

During the post-WWII years, aid was also used as a political tool to win over the support of recipient states by the major powers of the time, the Soviet Union and the United States. These major powers used aid as a tool of influence to get the recipient states to align with their side. Western aid at this time focused on raising the standards of living in Asia, Africa, and South America, in an attempt to make them more resistant to Communist infiltration and to align them with the West. At the same time, the Soviet Union was looking to spread the communist ideology among poor nations whom the Soviets considered to be the chief beneficiaries of the socialist revolution (Yunker 2014).

The 1960s saw an increase in the number of donor states and the implementation of more microeconomic goals. During this decade, the primary focuses were on employment and GNP as well as infrastructure projects. However, this was also when disillusionment began to grow over the effectiveness of aid policies. While recipient states were seeing economic growth on the national level, many simultaneously saw the poorest 40-60% of their society experiencing only small gains

(Ali and Zeb 2016). During this decade, social needs began to get incorporated into aid policies with projects aimed at providing basic needs, such as adequate food, clean water, shelter, clothing, sanitation, and health and education services, to poor and rural communities.

Today, many of the West's development aid policies are accompanied by required structural adjustment policies (SAPs) within the recipient states. These policies were developed following the global economic and debt crisis of the 1980s. SAPs often push neoliberal policies, including privatization of public goods, increase in trade liberalization, promotion of global trade, and deregulation of the process on goods and services. In exchange for the loans, recipient states must implement certain macroeconomic and fiscal policies that allow for states to reduce their spending on social programs and funnel funds toward debt relief. The reasoning behind these policies were to pull developing states, especially those with a large amount of debt, out of their inward focused models of national development, with little input from global powers to an outward-looking model that underscored the importance of integrating with the global economy. In Africa, for example, leaders in newly independent states were opting for government-controlled development, trying to avoid reliance on primary products like agriculture for their development and focusing on industrialization. While the region saw growth in the 1970s, by the 1980s states in Sub-Saharan Africa were facing fundamental issues in their development: high population growth, low levels of investments and savings, inefficient use of resources, and weak institutions (Heidhues and Obare 2011). In a report published by the World Bank in 1981, they argue that the failure of African economies to develop can be attributed to their governments and the policies that they were pursuing. They cited "gross resource mismanagement, faulty exchange rate policies, excessive state intervention and, especially, the protection of inefficient producers, the unnecessary subsidisation of urban consumers, extraction of high rents from rural producers and general corruption" as the major reasons for the slowing of the region's development (Heidhues and Obare 2011, 57).

Africa was not the only region to be experiencing slow economic growth and rising debt, and after the failure of regional plans to support economic development, international financial insitutions began gaining leverage to impose structural adjustment policies (SAPs) in these states in exchange for debt relief programs. The SAPs that were imposed during the 1980s and 90s were guided by neoliberal philosophies of development and economic liberalism (Oringer and Welch 1998). These policies revolved around the neoliberal principles of stabilization, liberalization, deregulation, and privatization and saw "competition as the defining characteristic of human relations," redefining citizens as "consumers, whose democratic choices are best exercised by buying and selling, a process that rewards merit and punishes inefficiency" (Monbiot 2016). The overarching objectives of these policies were to promote global economic integration, shrink government deficits, eliminate hyperinflation, and maintain a debt-payment schedule.

SAPs have evolved over time as global politics have change. Originally, they were focused on neoliberal economic development. Following the end of the Cold War, a focus was put on good governance and the need for a more human-centered approach, then after 9/11, when the threat of terrorist groups from failed states emerged, more focus was put on institutional effectiveness (Oringer and Welch 1998; Murray and Overton 2011). These global events paired with the introduction of Millennium Development Goals by the United Nations brought a shift in paradigm from neoliberal policies to neostructural policies, which incorporate participation, good governance, inclusiveness and cohesion, along with the neoliberal economic policies (Murray and Overton 2011). The United States, which is a major influencer of Western aid programs, states that their assistance programs are based on the principles of the recipient states take responsibility for the development and efficient development planning in the state that support the most vulnerable people, the encouragement and promotion of women in the economy, efficient utilization and development of energy, and regional cooperation, as well as US assistance being coordinated on a multilateral basis, and the promotion of the private sector and an open and competitive market to develop institutions and meet the essential needs of the population in the state (Office of the Federal Register, 2012).

While SAPs have been able to achieve specific objectives (i.e., privatization, reduction in inflation, a decrease in budget deficits), however they have failed to establish a base for sustainable balanced economic development and often result in local industries going bankrupt, increased dependency on imports, and a widening gap between right and poor, among other adverse effects (Oringer and Welch 1998). Despite the criticisms of SAPs and their outcomes, they continue to be a core characteristic of Western aid).

2.3 Foundations of Chinese Aid

The literature around Chinese aid can be divided into two categories: geopolitical outcomes and economic effectiveness of their aid policies. While China has been supplying aid through the second half of the 20th century and into the 21st, most research on the topic has been done in the last two decades. Research on Chinese aid rapidly increased following the state's 2006 announcement of a "new strategic partnership" through which they would increase trade to Africa "to reach the target of mutual benefit and win-win situation between China and African countries" (Ministry of Commerce as quoted in Dreher and Fuchs 2015, 993).

Chinese aid policy takes a hands-off stance when it comes to humanitarian and political concerns in a state. In response to structural adjustment policies and a history of colonialism in Africa, China often takes a "noninterventionist" stance, opting to focus on economic development. China has made public that their aid policies are grounded in the principles of creating relationships with developing states as a non-colonial power, while simultaneously promoting and benefiting Chinese businesses in the region. Wang, Ozanne, and Hao (2014) argue that this stance can be more helpful in promoting development, because it reduces the barriers (democratization and human rights pre-requisites) to a state receiving aid.

While China presents itself in the light of nonintervention and relationship building, scholars take a more skeptic view. Some argue that China's Aid can be seen as a type of "Rogue Aid," not given based on need, but as an effort to undermine the goals of Western aid. Naím (2007) argues that China is utilizing "rogue aid" as a means of getting money, raw materials, and to build up international alliances to grow its global influence. In the literature is the argument that China's use of aid is motivated by direct benefits to themselves and can be seen as a flex of 'soft-power' (Schoeman, 2008; Bodomo 2009; Morgan, 2019). Rupp (2008) argues that China's relationship with African states and their trade and aid policies benefit the African elite and Chinese business at the expense of the ordinary African citizen. Xu (2018) dives into this topic and argues that China's aid policies in a state are based on three factors, China's national interest, the recipient state's demands, and international pressures. If a state is on the international radar for human rights violations, then China is more likely to loosen its "nonintervention" policies, whereas if a state is experiencing political stability or not in the international eye, then China's interests are more focused on economic benefit (resources, oil, etc.) or political motivations to improve its reputation (Xu, 2018).

In 2014, China proposed and spearheaded the creation of the Asian Infrastructure and Investment Bank (AIIB) to provide financing for infrastructure needs throughout Asia. President Xi of China wanted this new institution to "further integrate

China within financial insitutions," and "'promote interconnectivity and economic integration in [Asia]' and 'cooperate with existing multilateral development bank.'" (Weiss 2022). Critics of the bank are wary of the power China has in the institution, and states like the United States, Japan, and Mexico have refrained from joining.

Criticisms of Chinese aid have been challenged by the argument that China has "selfless" intentions in their aid policies. Luo and Zhang (2011) argue that Chinese aid has been given by the government with only good intentions for the recipient state, stating that China continues to give aid despite its own economic hardships. Along the same argument made by Luo and Zhang, Dreher and Fuchs (2015) argue that Chinese aid is not biased toward corrupt regimes and that concerns about Chinese aid undermining the goals of Western aid are exaggerated. While not arguing in favor of this view of China's aid policies, Devon (2013) and Gülseven (2021) argue that Chinese aid is not working against Western aid but is in fact supporting Western interests in stabilizations and the promotion of market-driven economies.

There is some consensus that Chinese aid can be understood as a direct reaction to the aid of Western institutions. Chinese aid is and has been historically influenced by ideology. During the Cold War, China's aid given out in response to the global dichotomy between the US and the Soviet Union and the splitting up of the world into the First, Second, and Third World states. In this context, China used its aid as a way to attempt to position itself as the leader of the Third World, building up relationships to counter the power of the West and Soviet Union (Luo and Zhang, 2011; Brautigam, 2008). China gave aid to those states that shared their communist ideology, versus the Soviet ideology (Morgan, 2018). In her study, Pippa Morgan argues that there is evidence that these ideological considerations of the Cold War era aid policies, still influence the amount and recipients of Chinese aid (Morgan, 2018).

This reaction to the West can also be seen in the states the Chinese aid is sent to. As I will explore later in this study, many of the top aid recipients of Chinese aid are the states that do not meet the requirements to received Western aid, which can be due to human rights abuses.

It can be difficult to classify Chinese aid due to the ambiguity and lack of readily available information from the Chinese government. This also makes it difficult to analyze the amount or outcomes of Chinese aid on the recipient states. Brautigam (2011) argues that Chinese aid does align somewhat with OECD definitions of official development aid (ODA) but includes many aspects that the Western model doesn't. Chinese aid includes ODA funds, which has 25% or more of a grant element and is intended for development, other official flows (OOF), which has less than 25% of a grant element and is more commercial than development in purpose, and vague official finance, for which there is not enough information to accurately define as ODA or OOF (AidData n.d.). However, despite aligning somewhat, Chinese aid still does not meet reporting requirements of the OECD and is not very forthcoming with actual numbers.

2.4 Effectiveness of Foreign Aid

The effectiveness of foreign development aid is a topic that has been on the minds of policy makers and scholars since the establishment of the existing models. What the Western and Chinese models of aid have in common within the effectiveness arguments is that they both have a habit of burdening recipient states with development loans (Griffin and Enos, 1970), but where the literature diverges is on the attached conditionalities of Western aid and the mutual benefit ideal of Chinese aid.

2.4.1 Western Aid

Studies on the effectiveness of Western aid have conflicted with one another since the 1960s. Part of this uncertainty lies in the wide variety of available variables to study, case selections, and changing global contexts. Historically, the study of aid effectiveness has been on the economic impacts on recipients with studies finding both positive, negative, or neutral impacts (Rosenstien-Rodan, 1961; Hudson and Horrell, 1987; Boone 1995; Easterly, 1999; Hansen and Tarp, 2001; Burnside and Dollar, 2013).

Rosenstein-Rodan (1961) was one of the first to explore the effectiveness of Western aid. Published in the 1960s, Rosenstein-Rodan argues that aid should not be a tool solely to increase income, but to put states on the path of steady growth. This study looks at the growth rate based on population. While noting some states that had reached a pattern of sustained growth, Rosenstein-Rodan's argues that more aid is needed for those which have not reached that point. On the other side of the argument, Easterly's 1999 study takes a look at this financing gap model, in which a donor state can calculate the financial need of a developing state and fill the gap with aid, and which expects aid to go into long term investment and a long-term linear relationship between growth and investment. Easterly argues that there is not statistical reason to maintain the financing gap model of aid and finds that the two expectations of the model did not hold up over time, however the model is beneficial on a higher level with the donor state justifying the amount of aid being sent out, it is used by the majority of major donor states, and analysis on aid to a state is juxtaposed to that state, not to wider considerations. Like the previous two studies discussed, Hansen and Tarp (2001) look at the relationship between aid and real GDP per capita and find that there are decreasing returns on aid and that the results are dependent on which variables are selected as measures, arguing for a solid theoretical base for cross-state analysis of aid outcomes.

A study that generated a lot of attention when published was Burnside and Dollar's study from (2000). In this study, they find that aid was most beneficial in state with good fiscal, monetary, and trade policies in place prior to the aid and argue for conditioning aid on the basis of these good policies. In 2013, they revisited their study, and maintain their argument for the need of good policies to accompany aid in order for the aid to be most effective.

Despite the varying results on economic impacts, more recently there have been an increase in studies that have incorporated a more social policy lens. Kosack (2003) found that aid combined with democratization efforts can improve quality of life for people in a recipient state, and Dutta, Leeson, and Williamson (2013) who found that aid does not have the ability to transform the institutions of a recipient state, but will reinforce the existing insitutions (i.e., a democratic institution will become more democratic, and an authoritarian institution will become more authoritarian). These studies support the Western model's requirement of democratic institutions as a prerequisite and the inclusion of democratization efforts in aid policies.

2.4.2 Chinese Aid

Research into China's aid policy's effectiveness is a fairly new topic in the field and has only recently become the focus of scholars in the 21st century. A number of recent studies (Dolan and McDade, 2020; Guillon and Mathonnat, 2020; Martorano, Metzger, Sanfilippo, 2020) have found that when data is disaggregated, Chinese aid does produce results in certain sectors. These studies looked at effectiveness on the microlevel, specifically in health and education. Xu, Zhicheng, and Sun (2020) argue that Chinese aid results in positive economic development in Africa and that economic infrastructure aid has more direct results than other forms of aid. Furman Jr (2016) also found that the Chinese model resulted in better economic outcomes when compared to U.S. aid alone, due to its emphasis on building trade relation.

Despite the findings of economic development in recipient states by other studies, Isaksson and Kotsadam (2018) found that Chinese aid leads to more corruption in the areas surrounding a project, unlike Western aid funded projects, and has no observable impact on short term economic activity. However, with this uptick in corruption, Dreher et al. (2021) found that political favoritism does not impact the effectiveness of the aid that is provided. From these studies, it becomes apparent that while China preaches non-intervention in recipient states political institutions, they are impacting local norms where projects are implemented. Kamwengo (2017) and Xu and Zhang (2020) argue that Chinese projects that are focused on social and economic development result in favorable perceptions toward Chinese aid and instead of African states pushing to create development policies that reflect indigenous models, some are in fact adopting the economic models of Chinese development.

2.4.3 Impact on Human Development in Africa

Since the release of the United Nation's Millennium Development Goals (MDGs), many aid policies have adapted to incorporate the MDGs and an increase in research around the effectiveness of aid on human development increased, producing just as mixed results as the former research into the economic outcomes of aid[1]. The majority of the studies on the relationship between aid and the MDGs are based on Western aid policies, not Chinese.

Western aid's effectiveness on the health sector of a state has been a topic of interest for many researchers. Gani and Clemes (2003) found that food and health aid did not have significant impacts on a state's human development in low-income states, but water and education aid did, and Gomanee, Girma, and Morrisey (2005) find that aid can improve human development in states with an already low human development

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[1] Human development considers the societal factors of development such as life expectancy, access to water and sanitation, and education levels.

index (HDI). However, Williamson (2008) looked at health aid and its impact on human development and found that aid provided specifically for the health sector of a state is ineffective at improving human development in all 208 states that the World Bank records data for. Alemayehu also found inconclusive results when measuring human development through infant mortality rates, stating that “the main determinants of infant mortality that are expected to drive infant mortality are not significant which makes it difficult to make conclusions on the actual effect that foreign aid has on infant mortality” (2011, 26)

A 2015 report on the progress of the MDGs sparked an increase in research of the effect of aid in the region on human development, specifically. The World Bank reported on the attainment of the Millennium Development Goals (MDGs) and stated that extreme poverty has reduced is all regions of the world except Africa. This led to a lot of scholarly interest in human development in foreign aid (Asongu and Nwachukwu, 2016 and 2018; Asongu and Odhiambo, 2020).

Contrary to Williamson (2008) and Alemayehu (2011), research conducted after 2015 have found that aid did show some effectiveness in Africa. Cole and Reynolds (2019) found that there was evidence that pointed to human rights treaties, like the International Covenant on Economic, Social, and Cultural Rights (ICESCR), along with development aid improved some fundamental health aspects of human development, in particular infant mortality, life expectancy at birth, and daily calories per capita. Asongu and Odhiambo (2020) found comparable results in their study on the effects of several types of aid on human development and argue for an increase in understanding of how the various types of aid can be used more effectively together. Wickremasinghe et al (2018) argue for improving aid effectiveness by incorporating state ownership, alignment, harmonization, transparency and accountability, predictability, and civil society engagement and participation into aid policies, suggesting that these factors can improve the scale up of innovations in the health sector, among others, of an aid recipient.

What all these studies do have in common is that they are looking at aid using data from Western aid sources, such as the World Bank, OECD, and other Western institutions. The pool of studies looking into the effectiveness of Chinese aid is not as robust, in part due to the difficulty of finding available and reliable data on Chinese programs and projects. As discussed earlier, many studies on this growing source of aid are focused on the motivations of the Chinese state in their policy formulations.

2.5 Arguments for Adapting Aid Policy

There is a growing number of scholars that are starting to argue for a new approach to aid policies by the West and China which argue for either side to adapt some of the other's policies. The arguments that are looking at how the West should adapt are based on the coupling of Chinese aid with trade and investment, rather than good governance. Wang, Ozanne, and Hoa (2014) argue that by coupling good governance and economic development, the West is hampering development, while the Chinese aid programs are directly targeting the barriers are facing to development. In some instances, Chinese aid outperforms Western aid in economic development. Furman Jr. (2016) found that when considering the types of economic engagement (trade and/or aid), the Chinese model of aid combined with trade initiatives outperforms the Western model of separating aid from trade and requiring good governance, and argues for Western donors, the United States in particular, to incorporate some of the policies China employs, primarily moving the focus to trade over aid for promoting GDP growth.

On the opposite hand, an argument has been made for changes in Chinese aid policies to make it more stable. Zhang (2018) argues that Chinese aid should not be written off so fast by the West and that what the Chinese need to do is implement safeguard mechanisms for their aid-giving practices and work with, rather than in competition with, Western aid institutions. With this approach, Western and Chinese aid could be seen as complementary, rather than competitively, because there would be cooperation between the two sides.

Separate from the policies donors employ in their aid programs, there is also a growing preference in some recipient states for Chinese aid over aid from the West. According to a 2007 Pew poll, there was a positive perception of Chinese influence in Sub-Saharan African states that thought Chinese influence has had a more beneficial impact than the United States (Pew 2007). In 2019, these sentiments could still be seen in states like Nigeria, Kenya, and South Africa which see China’s growing economy as a positive influence on their own economies (Pew 2019). With the rise in influence

Chinese aid is having on development aid policies in Africa, scholars are beginning to argue for an alternative approach to the prevailing Western model.

Arguments for changes that should be made in Western aid policies include relaxing the requirement for existing democratic institutions, increasing the importance of trade policies in aid policies, and reducing the number of structural adjustment policies tied to aid. Bourguignon and Sundberg argue for the incorporation of "(a) state ownership of the development strategy, around which donors need to align, and (b) aid allocation based primarily on monitorable results (governance as well as outcome indicators)" to allow for more state-specific policies and measurable outcomes for analysis (2007, 320). Furman Jr (2016) argues for the Western model (the U.S. specifically) to adopt a more trade-focused policy in its foreign aid efforts. Armel (2020) and Kamwengo (2017) both argue for a trilateral cooperation between African states, Western donors, and Southern donors (primarily China, but also including Brazil and other emerging donors). Zhang (2018) argues that China is a growing power in international aid and will remain a major player in the foreseeable future and it is worth reevaluating global development aid policies.

Literature around the effectiveness of Western aid and Chinese aid is just beginning to understand the benefits of a more complementary approach to aid that sees the West and China working together, or at least in tandem. However, there is still work to be done on understanding the effectiveness and adaptability of both sides' aid policies. The topic of the effectiveness of development aid on a state's economic and human development is one with no clear answer, as of yet. What is missing in this realm of research is a look at the statistical differences between Western and Chinese aid on development measures and in what instances a complementary policy approach is best.

3. Problem Statement and Thesis

Foreign aid has interested scholars and policy makers since official aid policies were initially developed following the Second World War. This interest has not diminished over the years and has in fact expanded as aid policies changed and adapted to global interests and development needs. These global changes divided the field between the West, which over time has shifted from an economic development stance on development to one that is more inclusive of human development and addresses the United Nations Millennium Development Goals (MDGs), and China, which has maintained a strong economic stance, similar to early Western aid policies, and which has publicly rejected the political and social interference of Western aid.

As the divide between the West and China continues to grow, additional work needs to be done to understand the full impacts of their respective aid policies and how their outcomes differ or complement one another.

With an understanding that the West has a more humanitarian focus, one would expect to find aid from western donors with social policy requirements having a greater impact on a state's human development than aid from China and their heavily economic focused policies. One would therefore expect to see good governance attracting Western aid and being in a place that is better equipped to effectively utilize that aid, resulting in higher HDI growth over time, than their counterparts with poor governance. Conversely, a state that has poor governance will not receive as much Western aid and could therefore be expected to not have as strong of HDI growth in relation to aid flows as states with good governance. China's approach to aid makes it appealing to those states that either do not qualify for Western aid or do not wish to enact the social policies that often come with Western aid. By providing aid on "mutually beneficial" terms and with little to no strings attached, China lessens the motivations of states with poor governance to improve the social needs of their state, instead focusing solely on economic development and utilize the aid to boost their economies.

To explore these arguments, I will test the following hypotheses:

H1: Aid given with social policies attached or as a prerequisite will have a stronger correlation with human development improvements, while aid given without social policies attached or required will not.

H2: Aid given by Western donors will show a stronger correlation with human development improvements over time, than aid given by China.

H3: Aid given by China will show a stronger correlation with improvements in economic development than with human development.

3.1 Research Contribution

While there have been studies done on both the Western model and Chinese model of aid separately, and a few on the economic outcomes between the two models, there has yet to be a comprehensive study done comparing the effectiveness of Western aid and Chinese aid policies on improving development measures of recipient states. By filling this gap in the literature, this study can expand our understandings of what policies work as well as add to the growing literature providing potential alternatives or changes to the existing policies of the West and China, suggesting a new third approach toward aid policies that takes a more complementary approach between the West and China.

4. Research Methodology

To test the correlation between aid and development I use the variables of the amount of aid a state receives from the West and China as my independent variable, and the state's level of development over the span of 18 years, as measured by HDI and GDP as my dependent variable. While this is primarily a quantitative analysis of the relationship between foreign aid and development, I will also engage in qualitative analysis on of selected development factors and cases to better understand the results within a greater context.

4.1 Case Selection

The region of Sub-Sahara Africa has 46 states, which is too large of a selection for the scope of this study, therefore I filtered out 12 states that to focus on. The states I selected for this study are those that were in the top ten recipients for total aid received by China, and the top ten recipients for the West during the period from 2000 and 2017. The states selected were Angola, the Democratic Republic of the Congo (the DR Congo), Ethiopia, Ghana, Guinea, Kenya, Mozambique, South Africa, Tanzania, Uganda, Zambia, and Zimbabwe[2]. See Table 1 for aid commitments by donor and recipient state for the timespan of the study. This collection of states represents a several different types of relationships with donor states, various projects implemented, and allow for this study to look at how the effectiveness of aid varies within the states that are receiving the

[2] Nigeria and Sudan were both in the top ten for both China and the United States, but due to a lack of available Nigerian HDI data and the independence of South Sudan during the time span being analyzed, they were omitted from the study.

largest amounts. This selection process does open the door for further work down the line into other states in the region or in other regions.

Table 1: Total Aid Received by State From 2000 Through 2017 (in billion USD)

	Chinese Aid		Western Aid	
Angola	$97.8	*	$6.10	
DR Congo	$14.4		$42.3	*
Ethiopia	$27.1	*	$49.4	*
Ghana	$37.0	*	$22.9	*
Guinea	$25.4	*	$6.08	
Kenya	$17.6	*	$28.6	*
Mozambique	$10.5		$30.8	*
South Africa	$19.5	*	$16.6	
Tanzania	$16.0	*	$40.6	*
Uganda	$4.16		$26.2	*
Zambia	$8.59		$17.98	*
Zimbabwe	$19.1	*	$9.58	

Totals given in 2021 US dollars.
* Indicates the state is in the top 10 total aid recipients for that donor.

The choice to focus on these sub-Saharan African states is due to their relatively similar historical contexts and levels of development. The region was greatly impacted by years of colonialism leading to independence struggles in the mid-20th century. Of the states selected, eight got their independence between 1968 and 1980, with Ethiopia and South Africa gaining independence decades earlier (1935 and 1910, respectively). With the majority of the states gaining independence in a similar span of time, the assumption can be made that they would be dealing with similar challenges in the state building period following independence and their continued development thereafter. By focusing on states with similar historic contexts and in the same geographic location, these potentially confounding factors are held relatively constant and allows my analysis to isolate the effects of aid on development without drastic variations between cases.

Along with the historical similarities, sub-Saharan Africa also receives massive inflows of development aid from donors all over the world and has consistently received one of the largest portions of annual global shares of ODA. Between 1990 and 2018, the region received between 30 and 45% of annual ODA shares, with the primary DAC donor state being the United State followed by the United Kingdom, German, France, and Japan (OECD, 2018). This trend also holds true for Chinese aid, as the region is one of the largest recipients of Chinese aid. These massive inflows of aid to the region provide adequate data and ample cases to study in this thesis' efforts to analyze the comparative outcomes by donor.

4.2 Measuring Aid Commitments

The independent variable, aid commitments, is taken from two main sources. For Western Aid data, I used data provided by the World Bank through their online data center (2021b). This dataset is comprised of the data available via the Development Assistance Committee (DAC) of the OECD's Geographical Distribution of Financial Flows to Developing States, Development Co-operation Report, and International Development Statistics database which is available online at: stats.oecd.org. The data provided in the data set includes:

> "Net official development assistance (ODA) consists of disbursements of loans made on concessional terms (net of repayments of principal) and grants by official agencies of the members of the Development Assistance Committee (DAC), by multilateral institutions, and by non-DAC countries to promote

> economic development and welfare in countries and territories in the DAC list of ODA recipients. It includes loans with a grant element of at least 25 percent (calculated at a rate of discount of 10 percent) ... Official aid is provided under terms and conditions similar to those for ODA. Data are in current U.S. dollars (World Bank 2021b).

The largest sectors Western aid goes to are social infrastructure & services, economic infrastructure & services, as well as government & social society. The social infrastructure and services sector included projects aimed at developing the human resource potential and improve living conditions, such as education and health infrastructure and services, and water supply, sanitation, and sewerage, while the economic infrastructure and services sector included projects for the production and distribution of energy and the development and support for transportation and communications infrastructure (OECD, 2022a).

As for Chinese aid, it is a more challenging task to pinpoint general sectors and programs they support through their aid. China is not very forthcoming with a breakdown of their committed foreign aid, but researchers at William and Mary College have been studying Chinese development financing and just released an updated data set in 2021. Version 2.0 of AidData's Global Chinese Development Finance Dataset they capture over 13,000 projects worth more than $8 billion (2017 USD) from Chinese institutions and state-owned entities (Dreher et al. 2021). This is one of the best data sets on Chinese aid as they systematically track government-financed development projects and categorizes them according to established international aid reporting standard, as well as break aid commitments down by state, year committed, type of project, etc. For this study, from the data set, I pulled out the data labeled as official development assistance for China's aid commitments for the selected states from the dataset and adjusted the amounts from 2017 USD to 2021 USD to match the currency value in the World Bank's dataset on Western Aid. To match the data from the OECD, I only included the data for the Chinese assistance labeled as "ODA-like" and did not include "OOF-like" commitments, which are official sector transactions that do not meet ODA criteria set by the OECD.

Chinese aid typically is provided through grants, zero-interest loans, concessional loans, and debt relief. From the available data, the main projects Chinese aid funds include those in the education, health, and infrastructure sectors, with China sending resources like sewing machines and computers, as well as experts or people with specialized knowledge, along with financial assistance for debt relief (AidData, 2022). As stated earlier, the main focus for this aid is economic development and is mostly carried out through specific projects, rather than larger programs like Western donors develop.

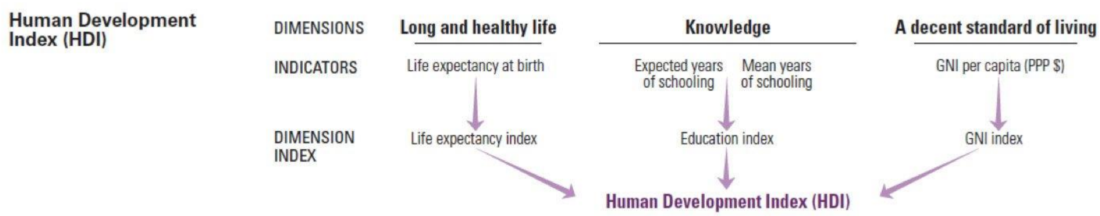
4.3 Measuring Development

Development can be measured in a number of ways. For this study, I will be using the United Nations' definition established in Resolution 51/240 from October 1997, which states that development as "a multidimensional undertaking to achieve a higher quality of life for all people. Economic development, social development and environmental protection are interdependent and mutually reinforcing components of sustainable development" (UN Res. 51/240, 1-2). In this study, for measuring a state's development, both HDI and GDP will be used. These provide useful measurements on both economic and social factors and can capture a wide look at the state's condition at the time of reporting and fit the UN's definition.

GDP is a standard measure when looking into a state's economic development because it ties in closely with the goals of market capitalism, which underly many aid policies. Through measuring GDP changes' correlation with aid received, can provide a good picture of how that aid has impacted the state's economy. There have been some studies to find a suitable replacement for GDP as a measure of economic development, however they have been criticized on their "faulty conceptual foundations" (Felice 2016, 989). In this study, GDP will serve as an indicator for economic strength and growth over time and the data will be collected from the World Bank's data center website (2021a). However, to address its limits measuring social and cultural factors, this study will also use a human development measure.

A state's HDI will be used to measure human development. This is an index that is released annually by the UN, going back to 1990, and uses indicators that go beyond the economic situation of a state to classify its level of development. The UN's Human Development Index (HDI) incorporates three dimensions in their calculations, long and healthy life (life expectancy and birth), knowledge (expected years of schooling for children and mean years of schooling for adults aged 25 and older), and standard of living (gross national income [GNI]). These dimensions are aggregated into a composite index using geometric mean (United Nations Development Programme, n.d.). Figure 1 shows the breakdown of the UN's calculations in developing HDI reports.

Figure 1: Structure of United Nations HDI Calculation



(United Nations Development Programme, n.d.)

4.4 Analysis

With the collected data, I measured the rate of change in GDP and HDI for each state in the study to establish the amount of development the states experienced over the course of this study, and then summed up the total amount of aid commitments per year by donor for each state and organized the data in a table to run regression analyses on it. Once the aid and development factors were organized, I ran simple linear regression analyses to help identify the strength of correlation between the aid received and the changes in development over time. I ran a total of four regressions for each state (Chinese aid and HDI, Chinese aid and GDP, Western aid and HDI, Western aid and GDP). While these results do not indicate a causal relationship between the variables, they provide a base for proceeding qualitative analysis of additional development factors and state contexts.

There are many factors that impact development, including conflict, natural disasters, and other major changes in a state, so following the regression analysis I will explore these external contexts. By interpreting the regression results in the context of changes within the states a more complete picture can be formed of the effectiveness of the aid and the implications of the associated policies.

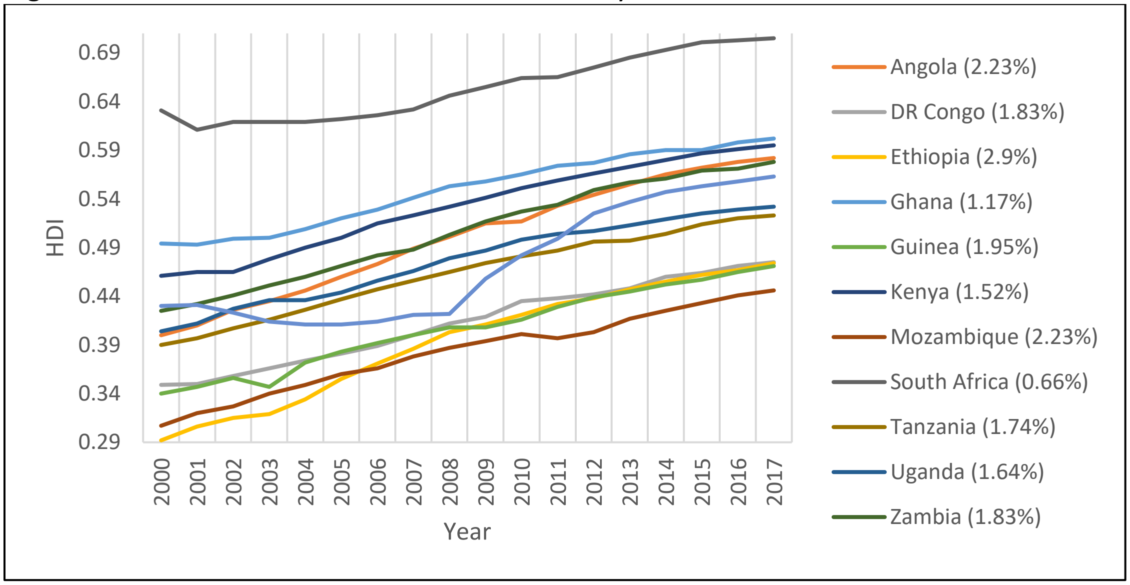
5. Results

Overall, each state in this study saw positive trends in their development and varying levels of correlation to aid. For HDI growth during this timeframe, Figure 2 shows the growth trends for each county and includes the average annual growth rate (aagr) in parenthesis next to the state name. The states that saw the largest aagr were Angola, Ethiopia, and Mozambique, which all saw growth rates above 2%. Each state also saw an overall positive trajectory in their GDP growth over this period, despite economic crises and drops in GDP in individual states over the course of the study. Figure 3 shows the trends in GDP growth, omitting South Africa due to its substantially larger economy. However, for reference, South Africa's growth rate was 6.75% between 2000 and 2017. The states in this study with the largest growth rates were Angola, Ghana, and Ethiopia.

Two states, Angola and Ethiopia, stood out as having large average annual growth rate for both GDP and HDI. Angola was the top aid recipient for China and was not even in the top ten for Western aid, and in fact had a large negative correlation between Western aid and GDP growth. While Ethiopia was the top aid recipient for the

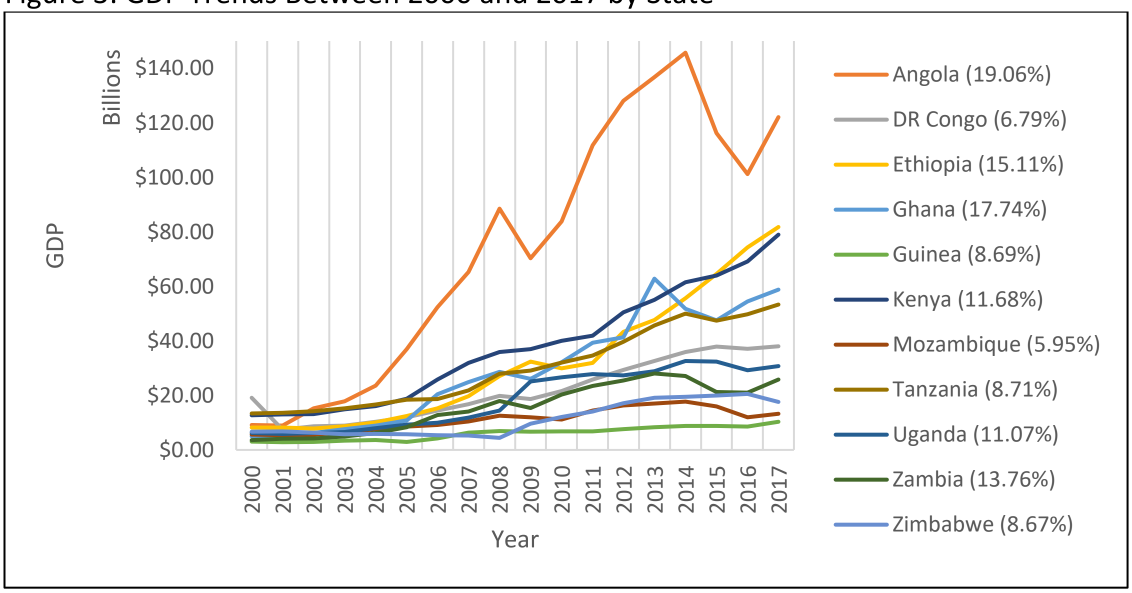
West and was also in the top ten states for Chinese aid. I will explore these two cases in more detail later on. What makes the two of these cases interesting is the source of their aid flows, the types of projects that they were used for, as well as the geopolitical and economic significance of these two states on the global stage.

Figure 2: HDI Trends Between 2000 and 2017 by State



(United Nations Development Programme 2021a)

Figure 3: GDP Trends Between 2000 and 2017 by State



(World Bank Group, 2021a)

5.1 Correlation of Aid and Development

With the HDI and GDP growth rates established, I now turn to the results of the regression analyses which overwhelmingly show that there is a stronger correlation between Western aid and human development improvements than there is with Chinese aid, which fits hypotheses 1 and 2. In all but three states (Angola, DR Congo, and Zambia) the West saw larger and statistically significant coefficients with most states in the study than China, with Ethiopia, Kenya and Uganda having the strongest levels of significance. There was also a slightly stronger correlation overall between Western aid and GDP growth than there was with Chinese aid, however Chinese aid did see large coefficients and stronger levels of significance with GDP growth than with HDI growth, which fits with hypothesis 3.

States that were only in the top ten recipients for one of the donors continued to see a stronger correlation between growth in their development and Western aid, except for Angola and Zambia, which both showed a stronger relationship with Chinese aid[3]. The only state that did not show a difference between the two donors was the DR Congo, which I will discuss further below. These findings provide an interesting insight into the macro-level impact of foreign aid in sub-Saharan Africa. From these results, it is clear the Western aid has a stronger relationship with the HDI and GDP growth than

[3] The states only in the top ten for Chinese aid were Angola, Guinea, South Africa, and Zimbabwe. For Western aid it was DR Congo, Mozambique, Uganda, and Zambia.

Chinese aid. However, as I will discuss below, the unpredictability of Chinese aid may be playing a role in their lower levels of significance.

Table 2: Regression for Aid on Gross Domestic Product (GDP)

	Chinese Aid	Western Aid	R Square	Adj. R Square
Angola	1.964	-83.99*	0.259	0.16
	(1.549)	(48.1)		
D.R. Congo	0.191	1.432	0.035	-0.094
	(1.312)	(1.971)		
Ethiopia	-0.357	18.38***	0.696	0.656
	(1.857)	(3.525)		
Ghana	0.822	26.28**	0.338	0.249
	(1.053)	(11.77)		
Guinea	0.126*	10.68***	0.623	0.573
	(0.072)	(2.566)		
Kenya	3.481*	17.15***	0.86	0.842
	(1.285)	(2.476)		
Mozambique	0.529	6.189***	0.533	0.47
	(0.797)	(1.764)		
South Africa	-2.195	278.5***	0.717	0.679
	(7.528)	(49.46)		
Tanzania	2.285**	13.60***	0.623	0.573
	(1.069)	(3.305)		
Uganda	6.816**	20.65***	0.717	0.679
	(3.068)	(3.951)		
Zambia	8.273***	9.292	0.391	0.31
	(2.979)	(8.517)		
Zimbabwe	1.567**	13.84***	0.713	0.675
	(0.68)	(3.461)		
# of Observ.	18			

Standard errors are reported in parentheses
*, **, *** indicates significance at the 90%, 95%, 99% level, respectively

Table 3: Regression for Aid on Human Development Index (HDI)

	Chinese Aid	U.S. Aid	R Square	Adj. R Square
Angola	0.005**	-0.089	0.402	0.323
	(-0.002)	(0.055)		
D.R. Congo	0.002	0.012	0.135	0.019
	(0.005)	(0.007)		
Ethiopia	0.001	0.051***	0.917	0.906
	(0.002)	(0.005)		
Ghana	0.002	0.064***	0.497	0.43
	(0.002)	(0.02)		
Guinea	0.002	0.19***	0.603	0.551
	(0.001)	(0.046)		
Kenya	0.005**	0.041***	0.895	0.881
	(0.002)	(0.005)		
Mozambique	0.008	0.051**	0.4	0.316
	(0.009)	(-0.021)		
South Africa	0.004*	0.076***	0.745	0.711
	(0.002)	(0.015)		
Tanzania	0.006**	0.047***	0.748	0.714
	(0.002)	(0.008)		
Uganda	0.018*	0.093***	0.809	0.784
	(0.01)	(0.013)		
Zambia	0.062***	0.042	0.563	0.504
	(0.015)	(0.043)		
Zimbabwe	0.012*	0.144***	0.704	0.664
	(0.007)	(0.031)		
# of Observ.	18			

Standard errors are reported in parentheses
*, **, *** indicates significance at the 90%, 95%, 99% level, respectively

5.2 Other Development Influences

In order to understand these results better, I want to look into the contexts within the states at the time of reporting. The statistical results show that there is a correlation between Western aid and development, but what were the other factors that may be influencing these results? I break down these influences into three main groupings, economic changes, conflict and wars, and natural disasters.

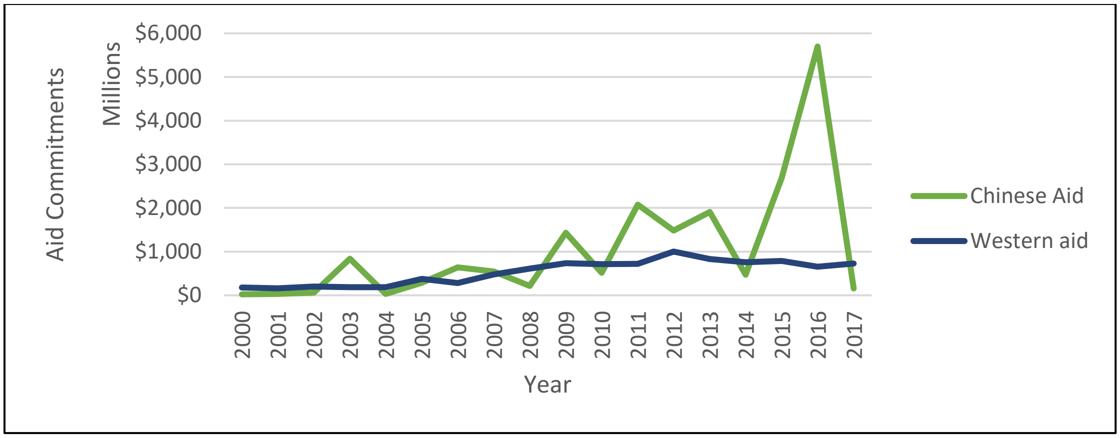
States are constantly changing and looking at these evolving contexts will provide additional insight on the data reported on above. Over the course of the timespan of this study, many of the states examined went through a number of changes and evolutions in the realm of their economies, conflict, and natural disasters. This section will explore some of the major events that took place in the states and how they related to the study's results. This section provides an overview of the major events and is not all inclusive.

5.2.1 Economic Changes

Both the West and China put a lot of focus on economic development policies in their aid policies, with the expectation that supporting the economies of recipient states will support their overall development, despite their different approaches. During the timespan of the study, a number of states saw major economic changes, the discovery of newly available natural resources, among other factors. One state, in particular, that faced a major and ongoing economic crisis was Zimbabwe. This state was hit the hardest economically. Zimbabwe's economic crisis started in the late 1990s when high interest rates and inflation provoked mass riots and a suspension of IMF and World Bank aid to the state. Throughout the early years of the 2000s Zimbabwe faced rapidly rising inflation, expulsion from the IMF, and a collapse in the commercial agriculture sector following seizure of white-owned commercial farms in 2000. Growing concerns over rights abuses in the state at this time also prompted many aid donors to suspend sending aid to the state. However, with the collapse of the commercial agriculture business and poor weather, the state experience severe food shortages, for which the UN, United Kingdom, and US all sent emergency food aid (Reuters, 2007).

Over the course of this study, Zimbabwe's HDI decreased until about 2008, when they started to receive more aid from China. At the same time, their GDP showed a similar trend, it was low and on a slight decline, until 2008 when it began to rise, until 2015. Aid from the West was pretty steady and never amounted to more than $1 billion but showing a slight increase around the time the state's development measure began to go up. Chinese aid to the state saw some spikes throughout the early 2000s, but from 2010 to 2016 spiked, with $5.12 billion being committed to fund agriculture and housing projects; $4 billion for agriculture productivity and $1 billion for urban low-cost housing (AidData 2022).

Figure 4: Chinese and Western Aid to Zimbabwe



Finding a solution to the Zimbabwean economic crisis is not a simple task. In an article published in 2009, Munangagwa argues that in response to Zimbabwe's economic crisis during the late 90s and early 2000s, structural reforms could be implemented to help restore the economy. The analysis above backs up Munangagwa's argument by showing a higher and stronger correlation with Western aid than Chinese aid, but it is also important to note that there is a statistically significant relationship with Chinese aid. This should go to show that social policies can help the situation, but the unqualified economic aid from China may also be a supporting factor in addressing the situation.

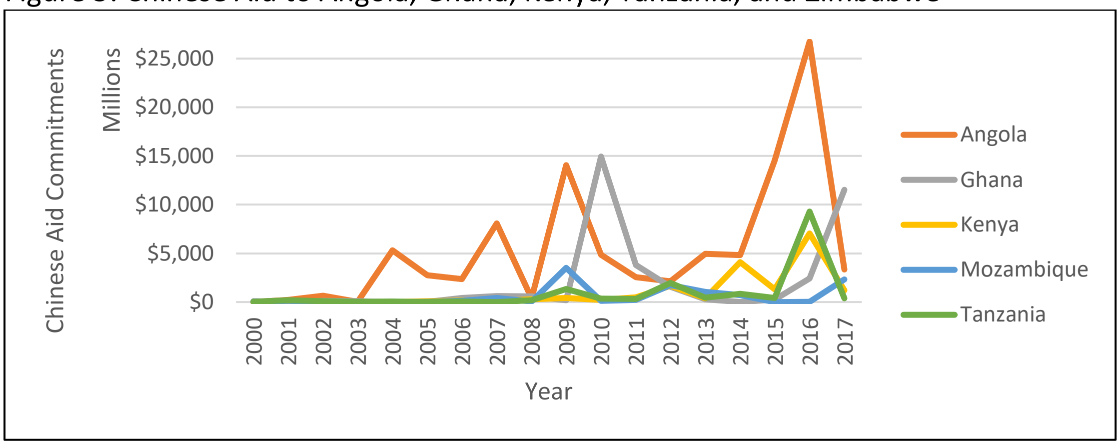
A second economic change that impacted some of the states in this study was the discovery of natural resource reserves, specifically oil and gas. While these resources can have a positive impact on a state's economy, such as benefits from economies of scale which provide for easy transportation for oil and oil products for global trade and the ability to sell and trade gas in smaller regional areas (Stevens, 2018). In sub-Saharan Africa, natural resource discoveries have often resulted in varied economic impacts with states often fallen into the resource curse. While states may see the prospect of wealth when natural resources are discovered, these discoveries also carry challenges for the state's economy and development. Oil and other natural resource production has been tied to slow economic growth, authoritarian regimes, and conflict which can impede a state's sustained development (Ross 2008; Humphreys, Sachs, and Stiglits, 2007 as cited in Burgis, 2015).

Of the states examined in this study, four had oil or gas reserves discovered during the timespan of the study. Ghana and Kenya found oil reserves off their coast, and Mozambique and Tanzania both found natural gas reserves in their territories. Three of these four states saw an increase in their GDP and rate of growth. When looking at Figure 3, starting around the time of these discoveries, the GDP growth of Ghana, Kenya, and Tanzania all began to go up. However, this trend does not appear in Figure 2, HDI changes over time.

One thing these four states have in common, related to their discovery of natural gas and, or oil, is a spike in aid from China shortly thereafter. In Ghana, the state signed an almost $13 billion dollar loan with China to help develop their oil and gas infrastructure (Kpodo, 2010). Similarly, following the discoveries in Kenya in 2012, Mozambique in 2011, and Tanzania in 2012, they all saw spikes amounting to billions more than they had been receiving in aid, from China. In Tanzania, their aid increased by $9 billion in one year.

The only major oil producing state in the study that had an established oil economy going into it, is Angola, which has been producing and exporting oil since the 1960s. At the peak of the state's oil production in 2008, it was producing 1,072 TWh, 1,068 TWh more than the next largest oil producer in this study, Ghana (Global Change Data Lab, n.d.). When examining Angola's GDP and HDI changes over time in Figures 2 and 3, it is clear that their economy is not as stable as others, with major spikes starting around 2003 and 2008, but then stark drops around 2006 and 2013. The strong spikes and drops in Angola's GDP can serve as an example for the argument that just because a state finds itself resource-rich, that does not mean it will also see strong economic stability.

Figure 5: Chinese Aid to Angola, Ghana, Kenya, Tanzania, and Zimbabwe



While the discoveries of oil and gas in Ghana, Kenya, Mozambique, and Tanzania did not have a major impact on their correlation between development and aid, they did play a significant role in the amount of aid received from China. These drastic changes in aid may be a factor into the limited correlation between aid and development, however, it does pose an interesting finding that warrants additional research, beyond this study. These findings shows that Chinese aid follows the discovery of resources which would seem to align with the Chinese position on promoting mutually beneficial aid programs with recipient states and lead to the question of what types of benefits is China getting from these natural resource investments. This finding would suggest that when China sees an opportunity for future returns, such as with a new discovery of natural resources, they will jump on the opportunity to build up newly-resource-rich state early on and support the natural resource production industry, therein. Similarly, it would go to follow that, China will send aid where there is a vacuum. When there is a need for aid that is not being met by the West, China will jump on the opportunity to fill that need.

An additional state to note in this part of the discussion is Guinea, while there was no discovery of natural resources in the state during the study, they did see a substantial jump in aid commitments from China in 2017, from just shy of $300 million in 2016, to $20 billion in 2017, which was part of a “infrastructure-for-mineral” concessional loan (Pickering, 2021). This jump in aid to Guinea took place in the last year of this study and should warrant further study of their development in the years following this study.

As discussed during the earlier review of relevant literature for this study, economic development is a primary focus of modern Chinese aid policy and has been a principal factor in Western aid and underlies many of the West’s human development policies. The economic changes discussed in this subsection show how the policies tied to foreign aid are impacting the recipients.

5.2.2 Conflict

The second group of state contexts that impacts development is the presence of war or conflict. As with economic challenges, conflict requires the governments of these states to reroute resources to address their impacts. Civil wars have detrimental impacts on the state facing the civil war and its neighbors' development. They can result in displacement, mortality, and poverty for noncombatant populations in the state, spill over into neighboring states through refugee flows, and increase the need for their own proactive military spending, and, through the establishment of ungoverned territories, are subject to additional crimes (Collier et al., 2003). The most impactful conflict that influenced the study was the Second Civil War in the DR Congo from 1997 to 2002. While I will discuss the DR Congo in more depth later on, it is important to note it here because this conflict spilled over into neighboring states, including Angola and Zimbabwe.

The DR Congo's Second Civil War in the late 90's, as well as conflicts that continued on into the 21st century, brought with them the displacement of noncombatant people. Zambia has been the destination for many refugees from neighboring states since the 1950s. In December of 2000, because of the conflict in DR Congo, Zambia received up to 60,000 refugees in less than a week (BBC, 2018). The hosting of refugees can have major impacts on the host state's development due to the funneling of resources and unpredictability of refugee flows. While many refugees have integrated into Zambia society, the state is still host to two camps and is home to over 100,000 refugees (United Nations High Council on Refugees, 2022). While Zambia's GDP and HDI did not show a strong change in response to the flows of refugees, there was a slight increase in aid from China, following the 2000 influx of refugees. China's aid commitments went from $15 million in 2000 to just under $200 million in 2001.

Angola's involvement in this conflict was due to their fear of an impending power vacuum if the new government of the DR Congo was overthrown. However, Zimbabwe had greater domestic implications for its involvement in this conflict. Zimbabwe had supported the DR Congo in their first civil war and was owed between $40 and $200 million for their efforts in that conflict. Going into the second civil war, Zimbabwe ended up pushing their already fragile economy even farther. In this second conflict in the DR Congo, Zimbabwe invested an estimated cost of around 3 million USD a day in this conflict, which has been argued as the beginning of their economic downfall (Munangagwa, 2009). While the state was spending billions of dollars fighting in the DR Congo, it saw widespread corruption, falling GDP, and rising inflation. This military move was not supported by the Zimbabwean people and has been argued to be a diversion tactic by the government to turn attention away from the challenges facing the state and toward a strong looking military (MacLean, 2002). This involvement supported the businesses of the Zimbabwean president's inner circle. As a result of their involvement, Zimbabwe was not able to pay for its diplomatic missions or for petroleum or energy through the end of the war and furthered their own economic crisis, and in turn development. Following this conflict, as shown in Figure 4, there was a slight spike in aid from China to Zimbabwe.

5.2.3 Natural Disasters and Health Epidemics

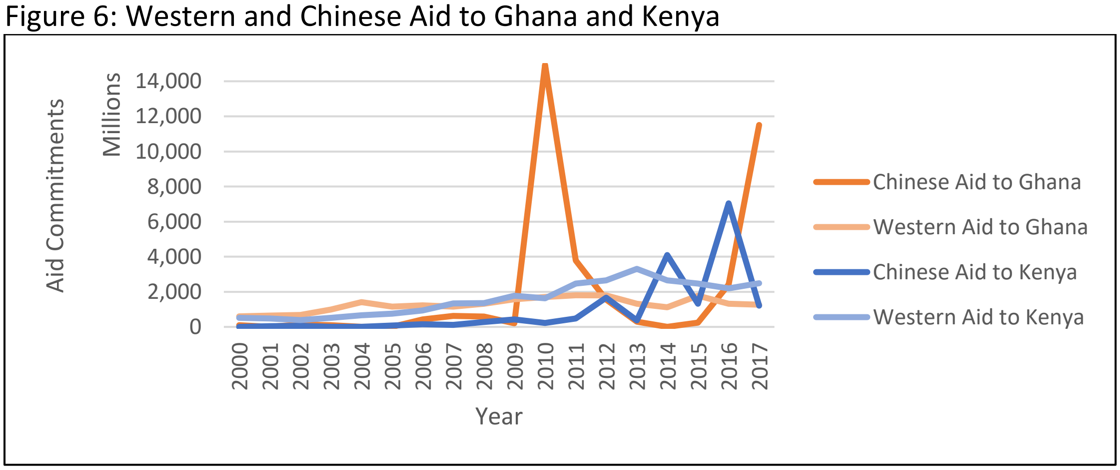
The third area that impacts a state's development is the event of natural disasters and, or health crises. A major challenge with these types of disasters is the unpredictability and variation in intensity, leading to a whole cast of impacts and effects on states. Of the states in this study, a number of them faced health crises, droughts, floods, and famine, which all had direct impacts on their development.

In 2001, sub-Saharan Africa was struck by one of the worst food shortages as a result of a combination of natural disasters and instability. The states that got hit in particularly hard were Zambia, Ghana, and Kenya. In response to this, the UN called on international aid donors to send supplies to the region, estimating that the region will require around 4 million tons of food to be imported in order to meet the needs of the population (BBC 2002). In Zambia, the government declared the food shortages a natural disaster and received food aid from Japan, consisting of drought-resistant grain seeds, bean seeds and fertilizer to and distributed among 6,000 households (BBC, 2002; Association for Aid and Relief, Japan, 2003).

In 2007, Ghana was struck by historic flash floods affecting 332,600 people, causing the death of 56 people, and destroying around 35,000 houses, 1,500 km of roads, and thousands of hectares of crops (United Nations State Team, Ghana, 2007).

Then in 2016 through 2017, Kenya experienced a major drought which threatened health and food supply and resulted in the government declaring a national emergency. Kenya is 80% arid and only experiences regular rainfall in the other 20%, however the arid lands are where almost a quarter of the population lives and half the of the livestock (Climate and Development Knowledge Network, 2017). The cause of this drought has been linked to climate change, with scientists noting that the drought they experienced involved temperatures that would not have been as high without the influence of climate changes (Climate and Development Knowledge Network, 2017). Zimbabwe similarly experienced food shortages and famine during the time span of the study, but it was a result of the economic crisis in the state and the seizing of farms across the state and its controversial land reform program, rather than a natural disaster (BBC, 2002). In figure 7, it shows that there was a slight up-tik in aid given to Ghana following the flash floods, as well as an up-tik in Chinese aid to Kenya following the floods and droughts in 2016 and 2017.

Figure 6: Western and Chinese Aid to Ghana and Kenya



Health epidemics pose another risk to developing states. As a state is trying to direct resources to development, a health epidemic can come in and require a redirection of those resources. During the span of this study, Uganda and the DR Congo repeatedly faced outbreaks of Ebola, while the region continued to be impacted by the ongoing AIDS epidemic on the continent. While health crises like these require the states to reallocate funds and resources, efforts to address them are widely supported internationally. Organizations like the UN, CDC, and governments of many richer states have implemented programs in the region to direct aid specifically to address these crises.

6. Discussion

So, what does all this mean for the field of foreign aid and development? How do the two aid models differ in their development impact as measured by GDP and HDI and in the context of the additional influences on development? The statistical analysis results seem to show that it is Western aid that has a stronger relationship with development. However, in this section I want to explore the results of the analysis and the other developments influences through the lens of both Western and Chinese aid policies using four case studies from the states in this study: Angola, DR Congo, Ethiopia, and Zambia. Despite the initial results showing a stronger correlation between Western aid and development, I believe these case studies will provide an argument for the effectiveness of Chinese aid as well.

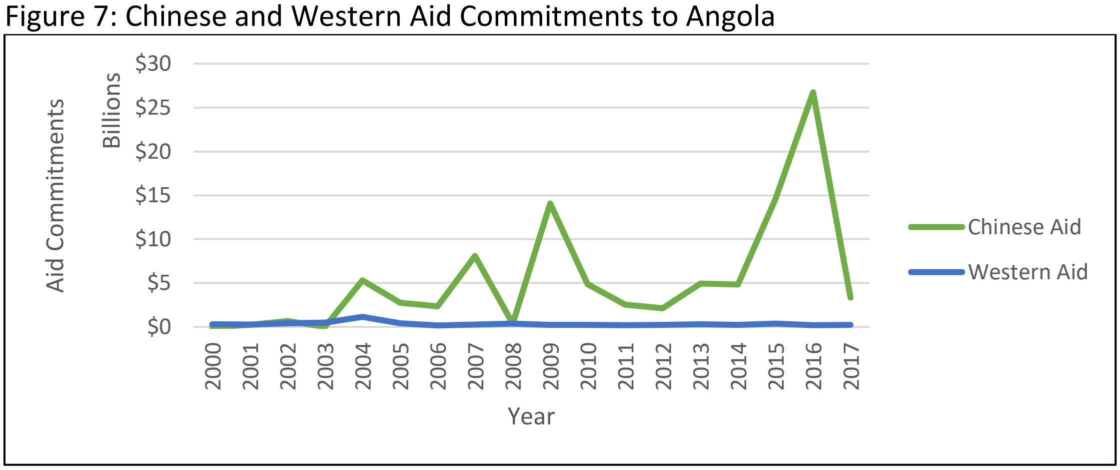
6.1 The Case of Angola

Considering the measurements of aid, while Angola did not have a strong correlation with aid and both development measures, they did have some of the strongest growth rates of HDI and GDP. When looking at Angola's GDP over the course of this study, it is clear that despite this strong average annual growth rate, they are facing an economic decline. Angola is the second largest oil producing state on the continent and their economy is reliant on oil. Since 2015, Angola has been faced with declining oil prices and a drop in their GDP, due to the fact that oil makes up one third of the state's GDP and 90% of its exports (World Bank Group, 2022a). However, starting around 2015, China also bumped up their aid to the state dramatically, from around $4 billion in 2014 to almost $27 billion in 2016.

It would not be speculative to say that China's large flow of aid to Angola is in due to their abundance of oil. It was shown that when natural resources are found, Chinese aid increases and is often time provided as loans to develop the infrastructure needed to grow the new industry in the state. Chinese aid to Angola has centered around infrastructure projects to support the manufacturing industry, agriculture and aquaculture practices, healthcare and education resources, and infrastructure projects (Kiala, 2010).

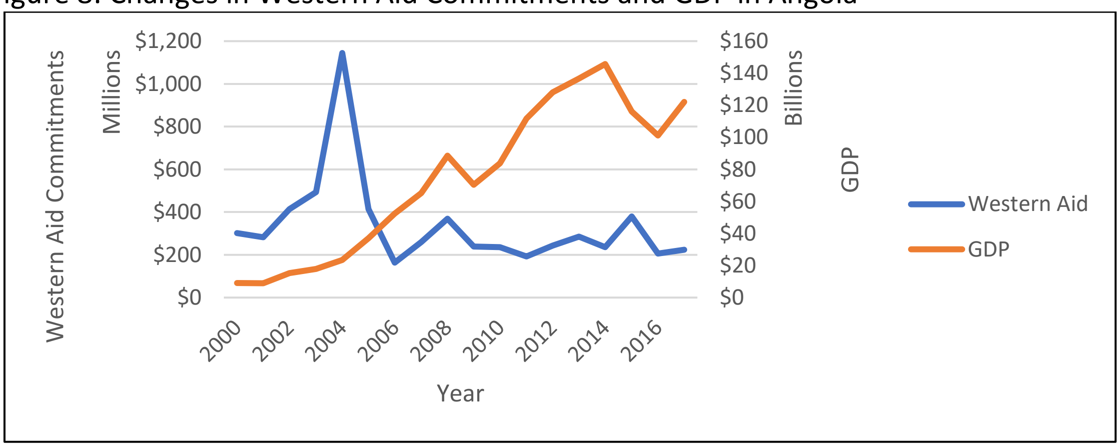
Chinese aid can also be seen to react to the economic changes in Angola. Over the course of this study, whenever Angola's GDP dropped, aid from China increased, and then when GDP went back up, aid decreased. This unpredictable flow of aid may be influencing the lack of significant results in the regression analysis performed in this study. Figure 7 shows both Western and Chinese aid flows to the state.

Figure 7: Chinese and Western Aid Commitments to Angola



An interesting result from the regression was the large negative coefficiant between Western aid and Angola's GDP growth, -83.99 with significance at the 90% level. After further investigation, this result appears to be reacting to the the converse trajectories of Western aid and GDP in the state. Figure 8 shows these trends. What the regression is reacting to is the spike in aid to Angola in 2004, which was not sustained, followed by a steady increase in GDP over time. While the aid flows and GDP growth rates are related, one is not directly causing the changes in the other. During the span of this study, Angola experienced a decreasing flow of aid from the West, but simultaneously received more the China and further built up their oil industry, which greatly supported GDP growth.

Figure 8: Changes in Western Aid Commitments and GDP in Angola



Despite the economic challenges that faced the state, Angola still saw one of the largest aagr for HDI in this study. Over the course of this study Angola's average life expectancy rose from 46.5 to 60.4, the exepected years of schooling increased from 5.1 to 11.8, and the GNI per capita rose from $3,673 to $6,862 (2017 PPP$) with a high of $7,652 in 2015, right before the decline in oil prices and their GDP (UNDP, 2020a). To idenitfy how much Chinese aid has impacted these figures, more micro-level research will need to be preformed, however, I would argue that a relationship exists between Chinese aid and Angola's HDI improvements due to the types of projects China takes on in the state and the lack of substantial aid from the West.

From this analysis, one could see that, despite there being no strong connection between aid and development in the state, China has continued to support projects that have contributaed to the state's development. Angola can be seen as a case where the restriction of Western aid policies kept the West from investing more aid into the coutnry, but the lack of similar requirements on the part of China allowed them to maintain their development growth.

6.2 The Case of Ethiopia

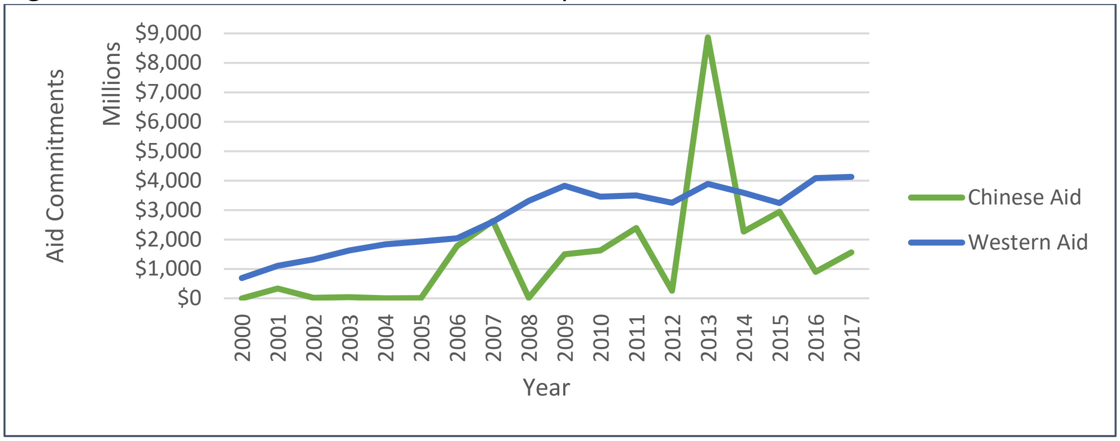
Ethiopia is one of the fastest growing states in the world and is in a unique position for this study. They receive a substantial amount of aid from both China and the West, while only showing a strong correlation between development and Western aid. The state also had some of the strongest aagr for both HDI and GDP. The World Bank describes Ethiopia's development as a result of factors including public infrastructure and that its high economic growth from 2010 to 2020, the second half of this study's time frame, led to a reduction in poverty in urban and rural areas (2022b). Between 2000 and 2019, Ethiopia's HDI increased 66% and over the course of this study, the state saw an increase in life expectancy from 51.9 to 65.9, the expected years of school increased from 4.3 to 8.6, and the GNI per capita went from $726 to $2010 (2017 PPP$)

(UNDP, 2020c). While the state is still categorized in the “low human development” category, it is showing improvements.

Ethiopia is located in a very strategic location on the Horn of Africa, in close proximity to the Middle East and Europe. Due to its geographic location, global powers have taken a great interest in the state and in turn have sent a lot of aid over the years. In the time span of this study, it was the top recipient for Western aid and in the top 5 recipients for Chinese aid, and beyond this study, Ethiopia is in the top ten of all global recipients of Western aid.

The aid Ethiopia receives from the West is primarily in the form of humanitarian assistance, followed by health and population aid, production, social infrastructure and services (Organisation for Economic Cooperation and Development n.d.). Conversely, aid from China is typically sent in the form of medical and vocational teams. Ethiopia is also a major recipient of China’s Belt and Road Initiative (BRI), a program to help a state develop through the development of infrastructure and the promotion of economic growth and receives a lot of investment by Chinese enterprises and Chinese state-owned enterprises (Calabrese, Huang, and Nadin, 2021). Figure 9 shows the state’s aid trends over the span of this study, and the spike in aid from China in 2013 was in part for the Addis Ababa–Djibouti Railway Project (Dreher et al 2021).

Figure 9: Chinese and Western Aid to Ethiopia



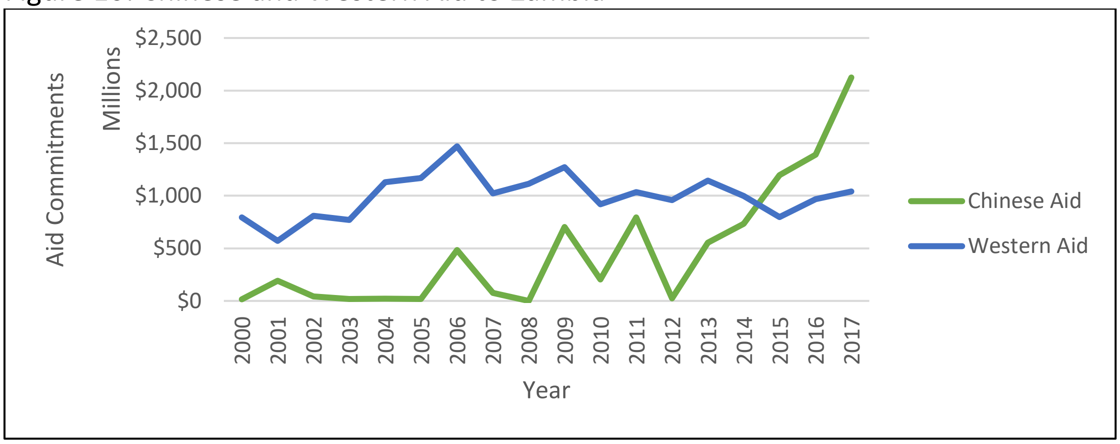
With the humanitarian focus of the West and the infrastructure and economic focus of China, Ethiopia can be seen as an example of how both aid donor groups can work together to bring about consistent development improvements. While the state saw a stronger correlation between development and aid from the West, as with Angola, the unpredictability of Chinese aid may be impacting the ability to measure the correlation between it and Ethiopia's development.

6.3 The Case of Zambia

The next case I want to look at is Zambia, which was in the top ten recipients only for Western aid but saw a statistically significant connection between both HDI and GDP growth and Chinese aid received. This is the one case that does not fit my hypotheses. While Zambia did not see a strong aagr for HDI and GDP, they did see some growth. Zambia's HDI rose from 0.425 in 2000 to 0.578 in 2017, which puts into the "medium human development" category, and in the same time span saw the average life expectancy rise from 44 to 63, the expected years of schooling rise from 9.8 to 11.3, and the GNI per capita rise from 1.879 to $3,331 (2017 PPP$) (UNDP, 2020d).

Over the span of this study, aid to Zambia was fairly consistent, with Western donors sending around $1 billion annually and China having a steady and gradual increase, with aid staying constant around $20 million between 2000 and 2008, then an increase in 2009 to around $500 million range for a while, until a spike around 2013 and working up to a high point $2 billion in 2017.

Figure 10: Chinese and Western Aid to Zambia



Aid from China has primarily been in the form of medical teams and resources, infrastructure projects like a railroad in 2014, as well as aid following natural disasters, like the floods and droughts (AidData, 2022). While Aid from the West was primarily in the form of health and population support and social infrastructure (OECD, n.d.). It is unclear from this study, why Zambia would have such a low correlation between aid and development compared to the other states in this study. The stronger significance with HDI improvements and Chinese aid may be in part due to the increase in aid during the second half of the study.

6.4 The Case of the DR Congo

I want to spend some time discussing the DR Congo, which is a major outlier in this analysis. While receiving the third largest sum of aid from the Western donors, it had insubstantial correlation to the aid received from both the West and China. The fact that this state does not fit the model of this study, is not due to a problem with the hypothesis, but instead is due to the complex and unique situation in the state. They have had major conflicts that greatly impacts its development as well as health crises with multiple outbreaks of Ebola and other diseases, further stunting its ability to develop. On top of these factors, the DR Congo has also been greatly impacted by the resource curse, which is a tendency for natural resource rich states to experience underperforming economies, nondemocratic governments, and higher levels of conflict (Shaffer and Ziyadov, 2012).

Being the size of Western Africa, the DR Congo has an abundant supply of natural resources including copper, gold, diamonds, cobalt, uranium, coltan and oil within its territory. However, it remains one of the poorest and least developed states in Africa. The state had a turbulent colonial period which left it without solid insitutions for development following its independence in 1960. “The Portuguese, Belgians, Mobutu [the authoritarian leader until 1997] and the present government have all deliberately stifled the development of a strong state, army, judiciary, and education system, because it interferes with their primary focus, making money from what lies under the Earth” (Snow 2013).

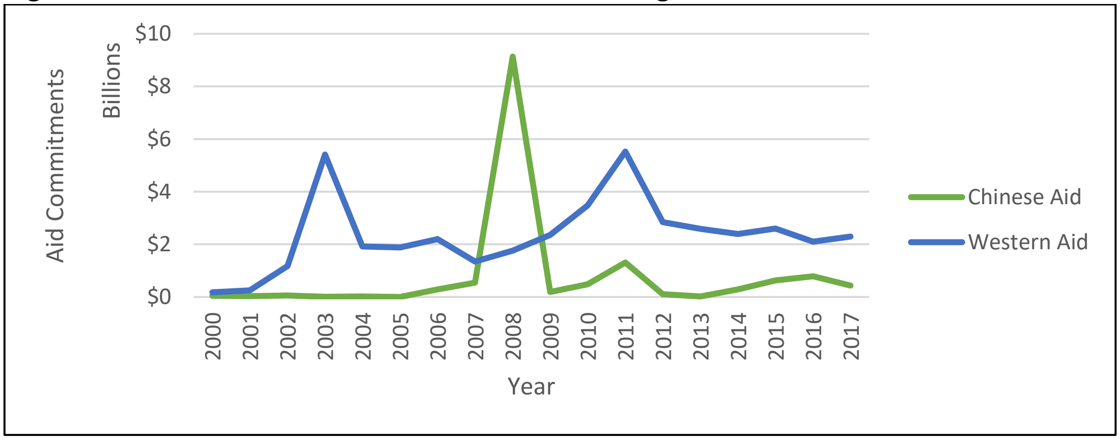
The current government was formed out of the "Great War of Africa" during the 1990s. In 1997, an alliance of revolutionists in DR Congo and neighboring states, led by Rwanda, invaded the DR Congo to bring down the authoritarian regime (Roessler an Verhoeven, 2016). The Congolese army was not strong enough or coordinated enough to withstand the invasion, and with its leader fleeing, Rwanda was able to set up a "puppet" regime to run the state. However, this regime did not last long as it refused to listen to the wants Rwanda resulting in an alliance of African forces invading the DR Congo and then turning on each other, furthering the collapse of the "paper-thin state" (Snow, 2013).

This systematic stifling of development prior to independence, the tolerance of continued rights violations of the authoritarian regime post-independence, and the targeting by neighboring states have all created a unique challenge to the prospect for development in the state. The case of the DR Congo should be seen as an outlier in this study due to this contextual past. As with the states that made natural resource discoveries during the time span of this study, the effectiveness of aid in the DR Congo should not be completely ruled out at this time. This case deserves a more micro-level analysis of the effectiveness of Western aid versus Chinese aid.

Aid commitments to DR Congo have varied greatly over time, with spikes from the West following the end of their second civil war in 2003 and then again in 2011, and a spike from China in 2008. The spike in Chinese aid in 2008 was part of a deal between the DR Congo and the Chinese state-owned firms Sinohydro Corp (SINOH.UL) and China

Railway Group Limited for the construction of roads and hospitals, to be financed by the cobalt and copper ventures (Ross and Reid, 2021). However, despite the commitment, the projects have not yet materialized, as of 2021.

Figure 11: Chinese and Western Aid to the DR Congo



Despite these challenges in the state, the DR Congo did see a positive aagr for both HDI and GDP. While its growth rates were not the largest of the study, they were there. For HDI, the DR Congo saw a growth rate of 1.83%, which accompanied by an increase in life expectancy from 50 to 60, the expected years of schooling from 7 to 9.7, and GNI per capita from &740 to $1030 (2017 PPP$) (UNDP, 2020b). Similarly, the state's GDP saw an aagr of 6.79%, not a strong growth rate, but a positive one.

6.5 Implications of Donor Aid Policies

From the Western perspective, a significant correlation was shown to be present between the aid that was sent to the recipient state's development overall, with some exceptions. When taking into account the policies of the West, this follows my second hypothesis, which stated that aid given by Western donors will show a stronger correlation with improvements in HDI over time, than aid given by China.

Conversely, when looking at the results for Chinese aid sent to the region, no overall significant correlation to recipient development was present, with some exceptions. However, when measuring aid flows, it shows that Chinese aid increases when situations in recipient states change and present possible benefit to the Chinese economy, in particular the discovery of natural resources like gas and oil. This follows the Chinese stance of mutually beneficial outcomes in aid agreements with recipient states. Despite the stronger correlation to Western aid, when looking at specific states like Angola and Zambia, the presence of Chinese aid without structural requirements of the recipient state may have allowed for human development, which would not have taken place without the presence of aid.

What may be impacting the rate of correlation between Chinese aid and development is their inconsistent aid program funding. As frequently pointed out in this study, Chinese aid varied drastically and usually was in response to an economic change in the state. Chinese aid can be $2 or $3 billion one year, then the next year something happens, and China ups their commitments to $20 billion or more. While these changes may be reducing the rate of correlation, they may in fact be having greater, overall benefits in development. Conversely, the correlation the West sees in this study may be because they are more consistent with their aid programs.

While the interests of the donor states play a significant role in who they lend aid to, the requirements for receiving aid that the West lays out can in fact hinder a state’s development and ability to implement more liberal policies. In states like Angola and Zimbabwe, the lack of requirements to receive Chinese aid proved to help the state through economic crises and challenges.

6.6 Argument for Complementary Policies

There needs to be a step away from the dichotomous views of foreign aid, that only one side is doing at the “right” way, and toward a cooperative view that is open to encompassing both sides of the aid debate. As discussed above with Ethiopia, when both donor camps use aid complementary a greater level of effectiveness can be seen. I want to briefly discuss one last example to further support this argument. Additional analysis of the above regression shows that Tanzania was in both donor’s top ten recipients of aid received and saw significant correlation with both Western and Chinese aid for both of the development factors. In cases like Tanzania, where both the West and China are sending billions in aid, there are signs of strong development and connection between this development and the aid received. While the county is still in the “low development” category, they are on a positive trajectory.

While Tanzania did not see the strongest growth rates for the development measures, they did see strong growth in the development measure over the course of this study, with their HDI AAGR at 1.74% and GDP AAGR at 8.71%. While in the mid-1990’s Tanzania saw a dip in its human development, starting in 2000 it saw substantial growth. Their life expectancy increased from 50.8 in 2000 to 64.5 in 2017, the expected years of school rose from 6.2 to 8.3, and the GNI per Capita rose from $1,396 to $2,473 (2017 PPP$) (United Nations Development Programme 2020f).

The aid received by Tanzania consisted primarily of economic assistance. From China, aid consisted primarily of medical, tech, and economic resources, while aid from the West primarily consisted of social and economic infrastructure and education (AidData n.d; OECD, n.d.). While more research should be done on the micro level of the aid programs discussed above, the results of this study do show the early indications of a pattern and may indicate that when both the West and China support economic development in a state there are stronger levels of significance between aid and human development.

7. Conclusion

This study supports previous work done on the effectiveness of foreign aid and finds that Western aid has a positive impact on a recipient state's development. However, this study also suggests that there can be some benefit from cooperation between the West and China in implementing their aid programs, as seen in Tanzania. When programs from both donors are complementary and focus on different parts of the recipient state's economy the possibility of a stronger relationship between aid received and HDI improvements can be seen. This study is the first to compare the two major donor groups, the West and China, in terms of their aid flows and individual state development changes and should not be the last. There is still a lot to learn from how the two side's aid policies work and the results they produce, as well as the potential benefits from a more collaborative or complementary approach to future aid policy.

In this thesis, I found there was a stronger relationship between Western aid and development, as measure by HDI and GDP growth over time. However, as discussed throughout, Chinese aid is not a consistent variable and can change drastically depending on changes to a recipient state's access to natural resources, global politics, or other factors, which can play a role in development. I showed that Chinese aid can have an impact in development and suggest that their unpredictable style of aid commitments is what is keeping a strong correlation from being present when running quantitative analyses.

Foreign aid and the policies governing programs will continue to be a point of contention among scholars and will continue to be influenced by global politics and events. However, in an attempt to produce development aid policies that produce the best outcomes, there needs to be a shift from the dichotomous view of the West vs China in foreign development aid, to a more collaborative or complementary approach.

7.1 Policy Implications

The results of this study reinforce the argument for either incorporation of both Western and Chinese development policies or the need for trilateral cooperation in foreign aid. First, it shows that the policies of the many Western donors show a stronger correlation with human development improvements as measured by HDI scores over time. Second, it shows that there is correlation between Chinese aid and economic development in some states, as measured by GDP over time. With this macro-level view of the impact of foreign aid, policy makers should see that it is in the best interest of recipient states to move away from the dichotomous view of West vs East and toward a cooperative stance with global aid donors.

7.2 Limitations of the Study

This study has its limitations which leave space for further research on the topic. This study only looked at a handful of African states and the data available for an 18-year period. This is also a macro-level study of the relationship between aid and development. From the literature review section, it has been shown that Chinese aid has a greater micro-level impact on development, so further work could be done on the individual factors that make up the HDI score. This study used basic multivariate regression analysis and further panel regression, or increased number of states studied, may be able to provide a more robust view of the topic. Despite these limitations, this study does offer a lot to the field and can provide a starting point for further work on the comparative relationship between aid donors and development outcomes.

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Appendix: Aid Commitments by Donor, Recipient, and Year

Chinese Aid Commitments

Year	Angola	DR Congo	Ethiopia	Ghana	Guinea	Kenya
2000	$0	$48,414,160	$551,997	$89,066,438	$5,949,454	$394,004
2001	$214,161,219	$37,893,847	$337,474,347	$8,753,400	$195,245,074	$47,730,548
2002	$663,846,842	$57,365,054	$15,004,944	$134,781,945	$23,083,207	$58,133,357
2003	$26,412,968	$15,249,432	$33,702,541	$100,720,540	$21,179,460	$1,038,911
2004	$5,320,796,375	$21,123,237	$253,067	$5,431,621	$109,985,838	$7,677,786
2005	$2,756,604,395	$2,541,210	$10,565,355	$10,413,043	$141,517,628	$82,950,269
2006	$2,355,141,701	$283,206,502	$1,776,625,007	$434,231,339	$38,484,536	$143,027,348
2007	$8,064,552,621	$542,100,943	$2,626,575,192	$622,322,216	$24,327,200	$121,009,569
2008	$388,245,643	$9,135,017,952	$15,951,377	$585,569,454	$14,631,527	$280,163,131
2009	$14,064,050,801	$191,239,158	$1,497,863,153	$203,637,024	$0	$424,418,658
2010	$4,865,655,959	$486,122,732	$1,629,445,561	$14,940,277,498	$0	$226,826,205
2011	$2,539,256,785	$1,314,602,629	$2,392,657,707	$3,790,457,169	$46,206,111	$483,920,802
2012	$2,111,729,012	$106,074,100	$258,594,516	$1,557,449,842	$0	$1,668,265,738
2013	$4,939,613,202	$20,122,445	$8,864,116,761	$301,154,670	$398,127,242	$376,751,633
2014	$4,824,500,927	$290,876,475	$2,266,323,228	$4,219,536	$290,835,145	$4,095,621,556
2015	$14,561,341,709	$627,049,031	$2,945,082,364	$248,100,991	$1,746,542	$1,315,753,949
2016	$26,747,868,341	$793,999,370	$902,260,177	$2,418,068,243	$288,937,264	$7,042,009,461
2017	$3,333,051,088	$439,441,003	$1,564,915,944	$11,513,135,128	$23,823,516,635	$1,207,508,712

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Chinese Aid Commitments, Continued

Year	Mozambique	South Africa	Tanzania	Uganda	Zambia	Zimbabwe
2000	$19,226,629	$0	$15,960,692	$10,311,389	$15,131,322	$21,823,173
2001	$111,811,509	$86,858,396	$198,832,239	$164,068,485	$191,647,354	$29,102,071
2002	$13,238,369	$175,072,633	$93,671,818	$19,245,512	$41,439,855	$62,231,373
2003	$3,506,146	$121,546,401	$23,059,275	$9,079,653	$18,839,692	$837,174,536
2004	$7,867,619	$91,351,794	$56,812,576	$16,609,417	$20,659,400	$31,825,545
2005	$16,449,243	$49,972,384	$565,459	$2,672,718	$17,698,553	$285,503,219
2006	$122,298,884	$4,890,396	$50,690,917	$41,582,924	$484,521,899	$637,512,179
2007	$416,134,957	$7,493,332	$7,789,979	$174,400,955	$74,837,850	$544,187,983
2008	$69,398,727	$0	$173,972,455	$37,391,374	$0	$216,966,718
2009	$3,513,006,315	$1,616,499,132	$1,345,787,910	$249,973,208	$702,490,602	$1,434,588,157
2010	$125,103,802	$515,951,951	$337,586,376	$4,888,415	$204,087,050	$516,868,889
2011	$216,551,475	$56,228,017	$324,328,036	$670,643,281	$794,187,991	$2,074,378,111
2012	$1,728,448,375	$225,183,083	$1,973,346,293	$22,553,205	$24,866,946	$1,481,434,602
2013	$1,038,916,953	$7,414,701,144	$455,556,908	$8,734,651	$554,407,527	$1,910,649,964
2014	$709,782,192	$209,881,368	$852,652,151	$2,043,902,201	$731,926,000	$474,811,416
2015	$6,935,590	$2,399,531,039	$425,213,540	$547,554,955	$1,196,636,448	$2,691,577,959
2016	$40,127,865	$1,120,817,759	$9,292,655,871	$104,991,306	$1,390,136,854	$5,698,384,476
2017	$2,314,740,345	$5,360,371,810	$375,243,399	$32,745,806	$2,124,444,717	$154,492,303

Custer, S., Dreher, A., Elston, T.B., Fuchs, A., Ghose, S., Lin, J., Malik, A., Parks, B.C., Russell, B., Solomon, K., Strange, A., Tierney, M.J., Walsh, K., Zaleski, L., and Zhang, S. (2021). Tracking Chinese Development Finance: An Application of AidData's TUFF 2.0 Methodology. AidData at William & Mary: Williamsburg, VA. https://www.aiddata.org/data/aiddatas-global-chinese-development-finance-dataset-version-2-0

Western Aid Commitments

Year	Angola	DR Congo	Ethiopia	Ghana	Guinea	Kenya
2000	$302,209,991	$178,440,002	$687,799,988	$600,650,024	$153,410,004	$513,919,983
2001	$282,730,011	$246,639,999	$1,103,599,976	$644,849,976	$289,250,000	$472,410,004
2002	$414,029,999	$1,176,170,044	$1,324,739,990	$689,369,995	$254,190,002	$388,220,001
2003	$493,500,000	$5,417,029,785	$1,621,160,034	$985,039,978	$250,630,005	$522,900,024
2004	$1,144,569,946	$1,919,150,024	$1,830,300,049	$1,419,010,010	$274,809,998	$655,929,993
2005	$414,679,993	$1,881,800,049	$1,929,119,995	$1,152,640,015	$192,910,004	$756,570,007
2006	$163,520,004	$2,197,239,990	$2,034,550,049	$1,236,250,000	$173,119,995	$941,650,024
2007	$259,980,011	$1,348,270,020	$2,606,550,049	$1,162,920,044	$257,609,985	$1,329,359,985
2008	$369,040,009	$1,766,900,024	$3,316,250,000	$1,312,170,044	$351,220,001	$1,363,400,024
2009	$238,940,002	$2,362,350,098	$3,823,760,010	$1,584,680,054	$217,660,004	$1,782,479,980
2010	$235,169,998	$3,483,649,902	$3,455,159,912	$1,697,219,971	$220,970,001	$1,631,260,010
2011	$192,940,002	$5,526,459,961	$3,495,889,893	$1,803,869,995	$202,119,995	$2,478,820,068
2012	$243,610,001	$2,846,169,922	$3,243,290,039	$1,799,290,039	$633,359,985	$2,653,659,912
2013	$285,540,009	$2,584,010,010	$3,885,540,039	$1,328,170,044	$467,540,009	$3,306,840,088
2014	$235,389,999	$2,400,020,020	$3,583,959,961	$1,123,130,005	$563,119,995	$2,661,030,029
2015	$380,059,998	$2,599,040,039	$3,238,889,893	$1,770,479,980	$538,929,993	$2,463,560,059
2016	$206,529,999	$2,102,330,078	$4,084,370,117	$1,318,650,024	$567,059,998	$2,188,389,893
2017	$223,220,001	$2,292,639,893	$4,124,750,000	$1,263,550,049	$472,269,989	$2,480,219,971

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Western Aid Commitments, Continued						
Year	Mozambique	South Africa	Tanzania	Uganda	Zambia	Zimbabwe
2000	$907,390,015	$490,010,010	$1,064,250,000	$855,929,993	$794,650,024	$175,639,999
2001	$961,469,971	$428,880,005	$1,274,900,024	$828,940,002	$570,840,027	$160,210,007
2002	$2,217,370,117	$506,959,991	$1,260,430,054	$732,979,980	$810,729,980	$199,130,005
2003	$1,049,520,020	$642,150,024	$1,725,760,010	$1,003,710,022	$770,450,012	$186,919,998
2004	$1,244,290,039	$631,609,985	$1,774,199,951	$1,222,239,990	$1,128,449,951	$187,300,003
2005	$1,289,859,985	$681,229,980	$1,492,449,951	$1,195,329,956	$1,169,050,049	$372,940,002
2006	$1,641,939,941	$723,239,990	$1,887,650,024	$1,589,229,980	$1,470,270,020	$278,239,990
2007	$1,784,989,990	$795,119,995	$2,823,810,059	$1,738,150,024	$1,022,489,990	$477,459,991
2008	$1,993,089,966	$1,114,910,034	$2,331,149,902	$1,643,390,015	$1,114,699,951	$612,750,000
2009	$2,013,599,976	$1,074,180,054	$3,127,199,951	$1,786,349,976	$1,270,819,946	$736,549,988
2010	$1,943,130,005	$1,036,270,020	$2,960,310,059	$1,690,140,015	$919,320,007	$712,530,029
2011	$2,065,469,971	$1,396,969,971	$2,441,830,078	$1,572,920,044	$1,033,469,971	$722,580,017
2012	$2,071,699,951	$1,065,829,956	$2,822,229,980	$1,642,500,000	$957,140,015	$1,001,590,027
2013	$2,312,699,951	$1,295,339,966	$3,433,239,990	$1,697,089,966	$1,145,250,000	$827,539,978
2014	$2,106,010,010	$1,077,400,024	$2,650,520,020	$1,633,680,054	$997,729,980	$760,570,007
2015	$1,819,119,995	$1,420,270,020	$2,584,709,961	$1,638,160,034	$797,140,015	$788,289,978
2016	$1,533,770,020	$1,180,280,029	$2,317,889,893	$1,762,599,976	$966,460,022	$654,250,000
2017	$1,806,089,966	$1,014,809,998	$2,585,790,039	$2,011,810,059	$1,040,489,990	$725,840,027

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