Debt, Diplomacy, and Development:

A Theoretical Model on China's Belt and Road Strategy

by

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A Senior Honors Thesis Submitted to

the Department of Political Science,

University of California, San Diego

March 31, 2025

Acknowledgements

This thesis would not have come to fruition without the guidance and support of many individuals. First and foremost, I am extremely grateful to my advisor, Professor Michael Joseph, for his insights, patience, and encouragement throughout this process. He challenged me to make mistakes and corrections until I comprehended the research process behind this thesis. His guidance has allowed me to grow throughout the hard times of this process. His research expertise has been key to shaping this work.

I would also like to extend my gratitude towards the advisors of the Senior Honors Thesis Seminal, Professors Gina La Gause and James Fowler. Their mentorship gave me crucial information in the process of this writing. Additionally, thank you to the other students in the seminar for the feedback and encouragement on this project.

A heartfelt thank you to my parents, who have always pushed me to be the best version of myself academically and beyond. Their support and encouragement have been a constant source of motivation.

I am also deeply appreciative of my fellow students – Annika Dengel, Noelle Enerson, Gina Leech, and Eugene Larson – who have been incredibly supportive throughout this journey. Their willingness to listen to my ideas, provide thoughtful feedback, and help me through challenges has made this process exponentially more enjoyable.

To everyone else who has offered their support in this process - thank you.

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1. INTRODUCTION

In 2013, the President of the People's Republic of China, Xi Jinping, announced an economic and political project inspired by the Silk Road. As a result, this initiative has been referred to by many variations of the "New Silk Road," such as the Silk Road Economic Belt, Belt and Road Initiative, One Belt One Road and the 21st Century Maritime Silk Road, due to its efforts to increase trade routes worldwide. Currently, approximately 145–149 countries have joined the initiative, though the exact number remains uncertain due to unclear or unofficial membership conditions.[1] The membership of the Belt and Road initiative consists of developing countries, emerging countries, and developed countries.[2] The Belt and Road Initiative (BRI) promises loans to developing nations that find it hard to access global credit. This affords them the opportunity to develop their economies that western markets will not provide, as per usual circumstances the risk of default is substantial.

1.1 Political Motivations

BRI has received a polarized response. On the one hand, China and its allies promote it as a new model for economic development. They argue that it has strengthened previously ignored economies and lifted almost a billion people out of poverty. On the other hand, critics suggest that BRI loans are predatory and China targets vulnerable states that cannot meet the terms, negotiates terms that place recipients in a position that increases the risk of default, and uses unsustainable credit relationships to exert influence. Indeed, many have argued that China seeks out targets of BRI programs based on political motivations. That is, targets that would be able to

[1] Nedopil, "Countries of the Belt and Road Initiative," 2025.

[2] Shang, "What Is the Belt and Road Initiative?," (Singapore: Peking University Press and Springer Nature Singapore, 2019), 2.

concede an asset or assist China's geopolitical strategy. China's political motivations can vary depending on what a state is able to offer. A political motivation for China is defined as anything that enhances its geopolitical power.

One of the major political motivations is the emphasis of the "One China Policy" which emphasizes that Taiwan is a part of China and not its own state. This execution has been exemplified by China's action of rewarding states with investments when they switch their diplomatic ties from Taipei to Beijing. Additionally, during the Summit of the Americas in November 2023, President Joe Biden stated in a speech that he wanted to "make sure that our closest neighbors know they have a real choice between debt-trap diplomacy and high-quality, transparent approaches to infrastructure and development."[3] The discomfort from the West is no surprise, as an increasingly strong China poses a challenge to powers who would challenge the international rules-based political order.

Another political motivation is encapsulated in the "String of Pearls" theory, which was coined by U.S. defense contractor Booz Allen Hamilton as follows: "China is building strategic relationships along the sea lanes from the Middle East to the South China Sea in ways that suggest defensive and offensive positioning to protect China's energy interests, but also to serve broad security objectives." India's concerns are particularly focused on China's growing presence in the Indian Ocean region, where several Belt and Road Initiative projects are seen as having dual-use potential for both commercial and military purposes.

[3] Boak and Hussein, "Biden Pledges at Americas Summit an Alternative to Chinese-Led Infrastructure and Development Loans", (Associated Press, 2023).

1.2 "Debt-Trap Diplomacy" Literature

There is likely truth in both positions on whether China is participating in predatory lending. In practice, we observe wide variation in potential recipient states which range from developing countries to developed countries. Some court China, enter negotiations and ultimately accept BRI loans. Others rebuff China's advances, or cannot come to mutually-agreeable terms. Of those that accept terms, we also see wide variation in the terms. One under-studied source of variation is whether there are political concessions and if so when they occur in relation to the investment. The occurrence of political concession before the loan occurs as an exchange for more preferable loan terms has received significant political and journalistic attention, but has not been researched extensively.

The Belt and Road Initiative (BRI) has received significant criticism, particularly from the West, including Europe and the United States. Concerns about the initiative primarily stem from the financing of various projects. The argument of "debt-trap diplomacy" suggests that the initiative is not genuinely aimed at assisting participating countries financially but rather serves as a means for China to expand its influence abroad. BRI projects tend to appeal to many developing countries, which often lack alternative funding opportunities, leaving them reliant on China. However, this theory has been heavily disputed as there is no conclusive evidence to prove it true. Although the topic has been widely debated, Gerstl and Wallenböck argue that, "Even though the literature on the BRI will further grow significantly, it is unlikely that a consensus will emerge about the exact motives behind the New Silk Road."[4] The consensus will be held back due to a lack of transparency in terms of the loans, which results in much speculation on what may be behind the lending practices.

[4] Gerstl and Wallenböck, *China's Belt and Road Initiative*, (London: Routledge, 2020), 3.

Debt sustainability has evidently become a significant focus in research on BRI projects. Bandiera and Tsiropoulos present a framework assessing debt sustainability for BRI countries, highlighting vulnerabilities for those undertaking large, debt-financed projects.[5] Similarly, Gerstel argues that many BRI projects impose unsustainable debt burdens on countries, potentially compromising their fiscal autonomy.[6] Goodman describes China's lending practices as "predatory economics," suggesting that the debt burden on these countries increases their dependence on Chinese capital, thereby securing China's geopolitical objectives.[7]

Further research examines how financial relationships between China and borrowing countries are evolving in response to global economic shifts. Casanova et al. note that geoeconomic fragmentation has impacted these relationships, prompting Chinese banks to adapt their lending strategies to reduce risk exposure amid rising geopolitical tensions.[8] This shift indicates a more cautious approach that seeks to balance BRI expansion with concerns about financial stability in volatile markets, differing from earlier literature that was largely skeptical of China's motives. Constantinescu and Ruta contribute to this perspective by analyzing the long-term trade patterns influenced by the BRI, revealing that while trade with BRI countries has grown, so too has China's financial leverage.[9]

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[5] Bandiera and Tsiropoulos, "A Framework to Assess Debt Sustainability under the Belt and Road Initiative," (Journal of Development Economics, 2020).

[6] Gerstel, "It's a (Debt) Trap! Managing China-IMF Cooperation Across the Belt and Road," (Center for Strategic and International Studies, 2018).

[7] Goodman, "Predatory Economics and the China Challenge." (Center for Strategic and International Studies, 2017).

[8] Casanova, "Chinese Banks and Their EMDE Borrowers," (IMF Working Papers, 2024).

[9] Constantinescu and Ruta, "How Old Is the Belt and Road Initiative?" (World Bank Group, 2018).

1.3 Contributions of this Thesis

I contribute to the debate on BRI in two ways. First, to reorient the debate, where existing work has focused on whether BRI loans are beneficial or harmful. Such debates emphasize outcomes (either default or development) that are hard to predict when the loans are signed. My overall framework suggests that, at the time loans are signed, expectations of these costs and benefits matter. Thus, it re-orients the debate to ask who we expect will actually take on the loans and who will not. Second, the existing debate thinks about political concessions simplistically. I parse Quid Pro Quo Offers and a concession occurring before and after the offer and a High Interest offer with a concession occurring after the loan experiences repayment issues. I test my theory with comparative cases of Sri Lanka and El Salvador representing a High Interest offer and Quid Pro Quo offer, respectively. This reflects real life variation where we sometimes observe states make small concessions up front and other times observe major concessions after default.

The purpose of this essay is to explain this variation. Thus, we have two questions: Why do we observe loans in some cases and not others? In the cases in which we do observe loans, what explains why concessions come at origination in some cases, and only afterwards in others.

To address this question I develop a formal model of predatory loans. The model includes a lender and a target. The lender has three courses of action: to not offer a loan, a High Interest Offer, or a Quid Pro Quo Offer. Depending on the decision of the lender, the target state has the option to accept or reject the offer. If the offer is accepted then "Nature" determines if a default occurs or if repayment is possible. We develop four equilibria from this model that determine the actions of the lender and the Target.

Thus, the model allows for loans to occur or not. Then when they do occur, it takes on two forms:

I find that when the chance of default is high, the target state will accept one of China's loans because they have a lower interest rate overall comparable to many of the offers the target is getting.

I find that, when the target is able to offer a concession before the offer occurs for a lower interest rate, they will do so. This is when we observe a Quid Pro Quo Offer over a High Interest Offer.

Beyond modern China research, the model is broad and can teach us something about the motivations of predatory lending in historical cases. In particular, there are other moments in history when a large national economy has sought to expand political influence and used foreign lending or economic inducements to entrap developing nations. Thus, our theory could explain how colonial powers exerted influence in autonomous regions. This might include the U.S. expansion into Latin America, British gun boat diplomacy, or the Marshall Plan of the United States.

2. THEORETICAL FRAMEWORK

I am interested in studying state-led predatory lending when the target of loans faces high political risk or otherwise a large chance of default, and the lender desires both financial returns and political concessions. There is a large literature on foreign direct investment, but this literature increasingly emphasizes firm lending that occurs within the global economy. In the case that interests me, the lenders are taking on clients that pose a large risk of default, and thus the standard mechanisms for commercially interested lenders do not apply. Unlike this literature, I focus on sovereign loans, where the lender can collateralize commercial loans with political concessions. In the BRI policy debate, there is substantial discussion of politically motivated loans and predatory lending, but these discussions do not adequately parse the nature of political concessions. I distinguish between two ways that political concessions can play a role: direct exchange and collateralization.

In what follows, I provide more detail on three conceptual points: What are political concessions? What are sovereign loans? Finally, what are the implied state features?

2.1 Political Concessions

I argue that the prospect of political concessions can offset this economic problem. In this theory, I assume that a major motivation for offering loans is to secure a political concession in the event that the target country is unable to repay the loan, resulting in default or nearing default. In this context, a political concession can be defined as any asset or action that a recipient country would not ordinarily offer to China under other circumstances.

For this theory, there is an assumption that it is understood between the two parties that a political concession may occur if there is an issue with repayment. This understanding does not

have to be officially written out, nor does it have to be clear what the concession will be before it occurs. These concessions may include physical assets or policy decisions that align with China's strategic interests. The political concession can take various forms, such as granting possession of a port, a military base, a UN vote, or other assets that enhance China's geopolitical influence.

The costs associated with the political concession can vary depending on the importance of the concession to the target. In general, a concession may have low importance to the target state due to similar alignment with China in terms of political ideologies. With other countries, the concession may be an item that, under previous situations, China had attempted to acquire but was turned down. These concessions allow an offset of economic loss because, oftentimes, they are items that will generate revenue for China through other means. This can include various transportation infrastructure projects, which then allow China to expand its trade or impose charges to make a profit.

Existing research has reported how China frames the initiative as a means to strengthen the influence of the Global South in the international system.[10] Examples of this criticism include the harbors of Hambantota (Sri Lanka), Piraeus (Greece), and the Bar-Boljare highway project in Montenegro.[11] Without transparency regarding the details of the contracts themselves and even the unrecorded discussions between decision-makers, determining the true intentions behind these occurrences becomes difficult. Many cite these cases as examples of China's attempt to expand its global influence by trapping other countries in debt.

The concept of preferred loans being offered due to political intentions is not unique to China. In the past, other countries have made loans and received repayment through various

[10] Gerstl and Wallenböck, *China's Belt and Road Initiative*.

[11] Gerstl and Wallenböck, *China's Belt and Road Initiative*, 5.

concessions. For example, during the Cold War, the United States would offer better terms for oil contracts to states that it wanted to coax away from Russian influence.[12] Through this, the United States attempted to expand its influence and control Russia's oil reserves by increasing its own possession of oil.[13] This strategic use of financial incentives demonstrates how economic tools, such as favorable loan terms or trade agreements, have long been employed by great powers to secure geopolitical advantages and shape global alliances.

2.2. Sovereign loans

My theory surrounds the terms of sovereign loans; which are understood as financial investments from one government to another. In standard economic theory, the interest rates reflect underlying liquidity in the financial market and the specific risk associated with the receiving state's default. First, a country's macroeconomic stability – such as its debt-to-GDP ratio, inflation rates, and foreign currency reserves – affects its likelihood of default. Second, political stability and governance play a crucial role; states with weak institutions, corruption, or internal conflict are seen as riskier borrowers. Third, the terms of the loan itself, including interest rates, repayment periods, and whether the loan is collateralized, influence default risk. Finally, geopolitical considerations can also shape loan terms. Lending states may offer favorable conditions to allies or strategic partners while imposing harsher terms on states with weaker bargaining positions. In the context of China's lending practices, these factors interact with political incentives, shaping the structure of sovereign loans beyond purely economic calculations.

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[12] Telhami, "The Persian Gulf: Understanding the American Oil Strategy" (Brookings, 2002).

[13] Telhami, "The Persian Gulf: Understanding the American Oil Strategy".

Political risk serves as one core reason that creditors who want to make loans and targets who need funds cannot agree to service a loan. Creditors are unwilling to offer more favorable terms because the political conditions require a higher interest rate to offset the political risk that the target will default. Given the lowest rate that makes sense for a financially responsible creditor, the target is not willing to accept it.

2.2.1 Types of loans

Under this theoretical framework, political concessions can shape two types of loans: Quid Pro Quo (QPQO) and High-Interest Offers (HIO). The core difference between them is whether the political concession is paid upfront or if it is used as collateral in the case of default. High-interest offers in this model generally have higher interest rates compared to other offers and include a political concession if the target country defaults. These loans are often extended to countries with limited borrowing options, making them more financially burdensome over time. It is important to note that HIOs in this case do not necessarily have higher-than-average interest rates compared to other investment offers to the target. In fact, compared to the other options presented to the target, the interest rates are lower than other available market offers, if there are any. The assumption is that this persuades the target to accept the offer, even though it may not be the most economical due to the previous debt the country might already have. The lower interest rate makes the offer more appealing to the target but is not always a strategic decision on the investing state's end when the likelihood of default is high. Having this lower interest rate implies that receiving economic returns from the state is not China's highest priority; rather, China may also be satisfied with repayment through political concessions.

On the other hand, Quid Pro Quo Offers come with relatively lower interest rates but include political concessions attached to them. The major difference between the two loan types

is when the political concession occurs. With a Quid Pro Quo Offer, a political concession is given upfront before the loan officially occurs or goes into effect. Under this type of loan, there is still the possibility for a political concession to occur if the target country struggles with repayment. However, struggling with repayment is often less common with these types of loans because the repayment terms are more viable and flexible, allowing the target more opportunities to pay back the loan. One notable concession under this type of offer is the recognition of Taiwan – or the removal of diplomatic relations with Taiwan. Many countries, especially in Latin America, have switched their diplomatic relations from Taiwan to China shortly before receiving an offer of Belt and Road membership or an investment. There is no written agreement stating that the removal of Taiwanese relations was a condition of these loans, but the timeline is often short, leading to the logical conclusion that this is not just a pattern, but also a deliberate practice. Although this does not directly provide China with economic profits, its push for the One-China Policy is a major issue that it firmly stands by. To the individuals making decisions about Belt and Road investments, this may be equally as important as economic profit.

The alternative type of loan that is not exemplified by the model (due to the lack of a political concession in the case of default) would be one solely focused on economic gain for both the lender and the receiver of the loan. Consequently, investment trends indicate that loans are assessed for their feasibility for both the recipient state and the lender. The goal is to facilitate development in the target country while ensuring strategic benefits for the lender. With these types of loans, you expect to observe a higher interest rate if the recipient has a high chance of defaulting on the loan. Lenders such as the World Bank and the IMF are not included in the possible lenders for this model. The IMF and World Bank tend to distribute loans and focus on

the terms of the loan with economic policy changes in order to assist the country to realistically repay the loans.

2.2.2 Loan Features

The loan itself can be related to a plethora of items. The basic assumption is that the loan is directed toward something that the target state has been attempting to construct or something that the target state could profit from if successful but not otherwise. This includes items such as ports, roads, railways, military projects, and other infrastructure-based initiatives. When looking at transportation infrastructure, the risk of default comes from squandering the resources, failing to complete the project or weak private sector demand. However, if successful, these projects generate substantial revenue to repay loans and profit. Military bases and security agreements also fall within these loans, as they can benefit the country to the extent that security is necessary for the economy to flourish and prevent political unrest while the target consolidates power.

The Belt and Road Initiative follows a five-pronged approach: policy coordination, infrastructure connectivity, unimpeded trade, financial integration, and people-to-people connections.[14] Policy dialogue includes providing policy support for the cooperation of large projects by creating development strategies, action plans, and concrete measures.[15] Infrastructure connectivity serves as a means to create a network linking various sub-regions. Unimpeded trade seeks to increase trade facilitation by eliminating trade and investment barriers.[16] Financial support encompasses collaborative efforts to promote the stability of the Asian financial

[14] Wang, "Offensive for defensive: the belt and road initiative and China's new grand strategy," (The Pacific Review, 2016).

[15] Huang, "Understanding China's Belt & Road Initiative, Motivation, framework and assessment" (China Economic Review, 2016), 319.

[16] Huang, "Understanding China's Belt & Road Initiative," 319.

market.[17] Lastly, the goal of people-to-people exchange is to establish mechanisms for various cross-country interactions.[18] This multi-faceted approach aims to foster deeper regional cooperation and sustainable economic growth by leveraging the comparative advantages of participating countries. These goals shape the investments made as a part of the initiative.

The Belt and Road policy meets the criteria for how loans are defined for this theory, as the initiative initially focused on infrastructure loans, mainly for railroads. Since then, the projects have expanded beyond railroads to include defense, ports, roads, and other less tangible initiatives. The loan itself has several key features defined for the purpose of this project. One general assumption is that, even if not explicitly stated, part of the cost of the loan includes a concession in the event of default. This feature must be understood at the time the loan is signed, as it serves as a potential mechanism for debt repayment. China's lending terms are often difficult to analyze, as they frequently include nondisclosure agreements and confidentiality clauses. As a result, "its lending terms often include nondisclosure agreements and confidentiality clauses, making it difficult for other creditors to gauge the full extent of a country's indebtedness to China."[19] This lack of transparency raises concerns about debt sustainability and the true financial obligations of borrowing nations. Understanding these hidden conditions is crucial for assessing the broader economic and political impact of China's lending practices.

[17] Huang, "Understanding China's Belt & Road Initiative," 319.

[18] Huang, "Understanding China's Belt & Road Initiative," 319.

[19] Runde, Romeu, and Hardman, "Reintroducing Concessional Loans into the Development Toolbox," (Center for Strategic and International Studies, 2004), 6.

2.2.3 Financing the BRI

The BRI falls into the category of loans that align with the loan features defined in this theory. Behind the Belt and Road Initiative (BRI) are various state-owned enterprises (SOEs), state-owned policy banks, commercial banks, and sovereign wealth funds.[20] These banks include the China Development Bank, the China Export-Import Bank, and the Asian Infrastructure Investment Bank (AIIB), among others.[21] The Silk Road Fund was originally established with US$40 billion to finance the Belt and Road Initiative, primarily investing in infrastructure, resources, and industrial and financial cooperation. Later, it was restructured as the AIIB.

Shortly after the Belt and Road Initiative was announced by President Xi Jinping, he called for the creation of the AIIB, which was later approved in March 2015.[22] The AIIB aims to provide an alternative to Western-led financial institutions such as the World Bank and the International Monetary Fund, offering an alternative to open capital markets.[23] Some view this development as an attempt to promote the "China model" and advance China's ambition to lead the international economic sphere, while others see it as an opportunity to integrate the Belt and Road Initiative into the existing global financial system.[24] Unlike China's state-owned policy banks, the AIIB operates as an independent institution, though China remains its largest

[20] Li et al., "Foreign Direct Investment along the Belt and Road." (Journal of International Business Studies, 2022).

[21] Myers, "China's Belt and Road Initiative: What Role for Latin America?," (Journal of Latin American Geography, 2018).

[22] Huang, "Understanding China's Belt & Road Initiative," 1.

[23]Dayaratna-Banda and Dharmadasa, "China's Belt and Road Initiative: Opportunities and Challenges for Economic Growth in Sri Lanka," (Social Science Research Network, 2019), 16.

[24] Huang, "Understanding China's Belt & Road Initiative," 1.

shareholder. It focuses on sustainable infrastructure investment, regional connectivity, and private-sector development, complementing the broader BRI framework.

In BRI projects funded by the Chinese government, more than 80% of the funding has been allocated to Chinese firms - mostly SOEs.[25] These SOEs represent the Chinese government in project operations, as the Chinese government partially or fully owns most of the SOEs involved in the BRI.[26] As a result, BRI projects not only serve economic purposes but also extend China's geopolitical influence by reinforcing state-led investment and infrastructure development. This reliance on Chinese firms, particularly state-owned enterprises, has raised concerns about economic dependency, labor practices, and the long-term implications for host countries' sovereignty and development.

2.3 Implied State Features

In this section, I outline the scope of what actors can fit into this theory. The frame of this theory only applies to certain types of lenders and targets due to various assumptions made in creating the theory.

2.3.1 Investing State Features

Some basic assumptions can be made about the investing country. The first assumption is that the state is capable of offering large economic investments in foreign countries and their firms. The states that would fit in this category have a large Foreign Direct Investment (FDI) outflow, which can be defined as “the value of outward direct investment made by the residents

[25] Li et al., “Foreign Direct Investment along the Belt and Road.”

[26] Li et al., “Foreign Direct Investment along the Belt and Road,” 904.

of the reporting economy to external economies."[27] Looking at Foreign Direct Investment in 2023, countries that could fit this description include the United States ($404 billion), Japan ($184 billion), China ($148 billion), Switzerland ($105 billion), Germany ($101 billion), Canada ($90 billion), and France ($72 billion).[28] All of these countries have high outflows of Foreign Direct Investments and the economic means to make these large investments.

The investing state must also have individuals within the state who are interested in economic and political returns. Focusing on the political section of this feature, within a government, there are certain individuals, particularly policymakers, political leaders, and lobbyists, who may push for investments that serve strategic interests. Actors such as China include features such as confidentiality clauses, which make it difficult for external parties to assess the full scope of a country's debt obligations. Additionally, Chinese loans often lack the structural adjustment requirements imposed by institutions like the IMF and World Bank, allowing recipient countries more flexibility in how they use the funds. However, this also increases the risk of opaque lending practices, hidden liabilities, and debt sustainability issues. The absence of transparency can make it harder for borrowing countries to negotiate debt restructuring or seek alternative financing, ultimately deepening their financial vulnerabilities.

In China's case, it has been mentioned that political influence was one of the goals of the BRI from its inception. Author Yong Wang contends that the BRI serves as a "grand strategy" designed to enhance China's regional influence through infrastructure funded by BRI loans.[29] This influence does not solely stem from predatory loans but can also result from increasing

[27] "What Is the Difference between Foreign Direct Investment (FDI) Net Inflows and Net Outflows?" (The World Bank, n.d.).

[28] "Leading Economies for FDI Outflows by Country" (Statistica, 2023).

[29] Wang, "Offensive for Defensive."

trade and economic ties with other countries. China has explicitly expressed its interest in expanding its geopolitical power, doing so partially through the BRI. The project has focused beyond the economic benefits from expanding trade and China's economic relationships. Additionally, the BRI has been framed as a way to assist in giving the Global South power and a voice in the global sphere, doing so by increasing trade with China. Furthermore, the BRI is primarily executed through Chinese State-Owned Enterprises (SOEs). SOEs, such as China Communications Construction Company (CCCC) and China Railway Group, are central to BRI implementation.[30] They receive financing from Chinese policy banks (e.g., China Development Bank, Export-Import Bank of China) and secure contracts abroad with heavy government backing[31]. This state-led approach not only strengthens China's economic foothold in participating countries but also reinforces its strategic influence by fostering long-term dependencies on Chinese capital, infrastructure, and political support.

2.3.2 Target State Features

For the target state, there must be a baseline need for an investment. This means many of the target states are developing countries. The targets are foreign states and not firms. This distinction is crucial because we assume that the target has the ability to make political concessions, such as UN voting and granting access to military bases. Firms are unable to provide these concessions.

There must also be a risk that the target state will default on its loan. This also means that most of the target states would fall into the category of developing countries. Although all countries that participate in the Belt and Road Initiative can be applied to this model, our main

[30] Li et al., "Foreign Direct Investment along the Belt and Road."

[31] Li et al., "Foreign Direct Investment along the Belt and Road."

point of interest is examining cases where a state defaults. Additionally, we assume that there is an underlying political disagreement that the investing country would not be able to resolve without using a concessional loan. The target state would not concede the asset or policy under normal circumstances, but is willing to do so in order to resolve its debt.

3. MODEL

In this section, I construct a model of two states entering into a loan agreement together. The two players are Challenger (C), the one offering the loans, - and the target state (T), the actor being offered loans. The model can apply in a more general sense to any dominating power that is politically motivated. These players represent the governments or decision-makers of each state. . In this setting, C is powerful and has the economic means to invest in other countries, and T is in need of economic investment. C wants to invest in T, and T wants the investments.

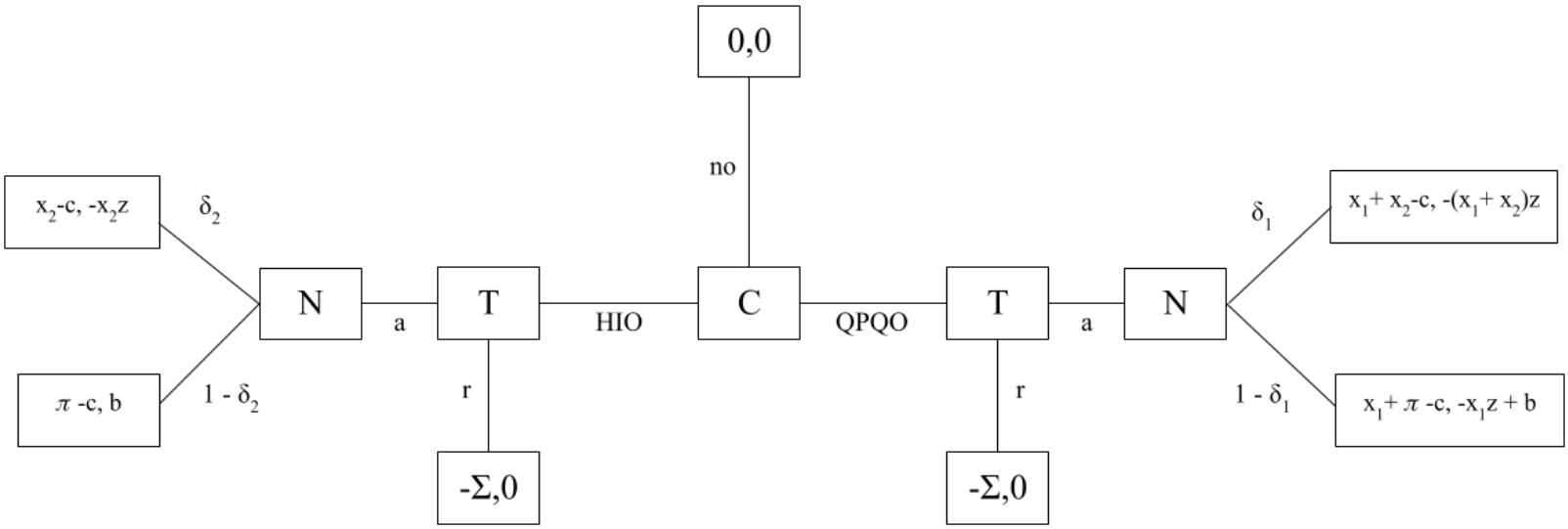

Figure 1. Theoretical Map

Variable	Description
C	Representing the Challenger as the actor that decides whether to offer loans.

T	Representing the Target, which is the actor receiving a loan if one is offered.
N	Value of Nature – a factor that is not determined by either China or the target country but influences whether the target is able to repay the debt.
X	A political concession can be defined as any asset or action that a recipient country would not ordinarily offer to China under other circumstances. These concessions may include physical assets or policy decisions that align with China's strategic interests. X_1 refers to a political concession that occurs before the loan is officially made, while X_2 refers to a political concession that may occur if the recipient country struggles to repay the debt.
π	The total amount that China receives upon successful repayment by the Target. This includes the original investment and the interest.
z	The importance of the political concession to the Target.
b	The asset being invested in, which the Target will receive upon successful repayment of the loan.
c	The size of the investment from C.
δ	The Target's chance of repaying the loan. δ_1 applies to a Quid Pro Quo Offer. δ_2 applies to a High-Interest Offer.
$-\Sigma$	Small cost that C accrues if the Target rejects a loan.

Table 1. Variable Explanations

The timing of the model is presented in Figure 1. First, C decides between offering no loan, or offering one of two loans. Second, if the Target is offered any type of loan, T decides to accept the terms as presented or reject them. If the Target accepts the terms of the loan, then Nature (N) determines whether the Target defaults with δ, or not $(1-\delta)$.

The payoff parameters are summarized in Table 1 Note we normalize the case of no loan to 0,0. For simplicity, we assume that if the Target rejects a loan that C accrues a small cost (

$- \Sigma$). This assumption allows us to rule out multiple equilibria owing to C's indifference between making an offer that is rejected and making no offer at all.

Here we emphasize how the model captures the substantive features of both loan types through two parameters: the risk of default (δ) and the conditions under which political concessions are exchanged. In the QPQO, T pays a political concession with certainty (x_1), and will pay another political concession in the event of a default (x_2). In the HIO Model, T will pay a political concession in the event of a default (x_2), but there is no up front concession. Due to this, we assume that the HIO's will always have a higher interest rate than the QPQO offers because C will have already received a direct exchange; therefore $\delta_1 < \delta_2$.

Next we discuss the gains and losses of each of the outcomes as presented in Figure 1. When a Quid Pro Quo default occurs (represented by δ_1) , China will receive two concessions: a concession that occurs before the investment (x_1) and an additional concession (x_2). Finally china will lose their original investment - or part of it - as the concessions will be the payment for the investment. For the Target, they lose both of the political concessions (x_1 and x_2). The importance of these assets (z), impacts the severity of their loss.

When a Quid Pro Quo offer does not have a default, the target state was able to complete the payment of the investment ($1-\delta_1$). When this occurs China will receive the political concession that occurred before the investment (x_1), and the original investment plus the interest rate ($\pi - c$). The target will have a loss of the concession that occurred before the investment and the importance of that concession will affect the severity of that cost. The target will gain the asset the investment was used for (b).

Next we will discuss the outcomes of the High Interest Offers. When a high interest offer default occurs, (represented by δ_2) , China will receive a concession as a form of repayment (x_2)

and will lose all, or part, of their original investment (c). The target will lose the political concession (x_2) and this loss will be affected by the importance of their political concession (z).

When a High Interest Offer does not occur ($1 - \delta_2$), the result is the repayment of the investment. China receives the original investment plus the interest rate ($\pi - c$). The target will will gain the asset the investment was used for (b).xcs

With these actions we can have 4 different outcomes or Equilibrium:

	C's Offers		**Outcome**
	High-Interest Offer	Quid Pro Quo Offer	
Target's Decision	Accept	Accept	1. Either Offer possible, Decision left for C to decide which is more advantageous for them
	Accept	Reject (no offer)	2. Only High-Interest Offer possible
	Reject (no offer)	Accept	3. Only Quid Pro Quo offer possible
	Reject (no offer)	Reject (no offer)	4. No offer possible

Table 2. Equilibrium

Table 2 represents the equilibria presented by the model. The first equilibrium describes the scenario in which the target would accept both offers. When this occurs, the offer made is based on what benefits C the most. The second equilibrium results in an HIO offer only. In this case, the target will not accept a Quid Pro Quo offer. Since we established that the lender will not make an offer that the target will reject, the only possibility is a High-Interest Offer. The third equilibrium occurs when the target will not accept an HIO offer, making a Quid Pro Quo the only possible offer. The final equilibrium represents a scenario in which the target will not accept any

offer, meaning the lender will not extend one. The only instance in which these four equilibria do not hold is when there is an information imbalance that prevents C from accurately predicting the target's actions. This equilibria will be described more in depth in "Explaining Variation in Predatory Loans."

3.1 Preliminary analysis:

The Target ultimately decides which offers to accept given the risk and cost of default. What the Target is willing to accept will partly determine what we observe. We can express the Target's preference as a function of two conditions that determine what the Target does at the moment he is presented with a specific offer.

First, the Target prefers to accept a QPQO rather than reject it if and only if:

$$-\ \delta_1(x_1 + x_2)z + (1 - \delta_1)(-x_1 z + b) > 0$$

This solves for:

A. $Z < \frac{b(1-\delta_1)}{\delta_1 x_2 + x_1}$

As the equation shows, the Target is only interested in a QPQO if the benefits of the outcome are greater than zero (which is what they would receive if they did not accept any offer).

Second, the Target prefers to accept a HIO rather than reject it if and only if:

$$-\ \delta_2(x_2 z) + (1 - \delta_2)(b) > 0$$

This solves for:

B. $Z < \frac{(1-\delta_2)b}{\delta_2 x_2}$

As the equation shows, the Target is only interested in an HIO if the benefits of the outcome are greater than zero (which is what they would receive if they did not accept any offer).

As a result of these two conditions, we might observe four potential Target responses. The Target would accept any offer (when A and B hold), no offer (neither hold), only a HIO (when A holds and B does not), or only a QPQO (B holds and A does not).

This result is important. If the Target will accept anything, then C's preferences solely determine whether and what offers we observe. But if the Target rejects some offers, then T's preferences constraint what C will offer. As we shall see, this allows us to arrive at each offer for one of two reasons: C wants to offer it, or C is deterred from offering a preferred settlement, and instead must turn to a secondary offer.

3.2 Explaining Variation in Predatory Loans

A key feature of the model is that C only desires to make loans that the Target will accept. Thus, there are only three observable outcomes that can arise: C does not make an offer, C makes a HIO that T accepts, or C makes a QPQO that T accepts. But lurking beneath the surface are potential different logics for why we can observe these results. It is possible that C wants to make offers, but realizes that T will not accept them, or that T prefers offers that C refuses to make. Here we focus on what we observe. However, in our explanation, we

demonstrate the distinct logic that can cause the different potential outcomes. In the next section, we will use these equilibria to explore the conditions under which we expect different outcomes.

Proposition 1: We observe a HIO on path in one of two cases:

In case 1.1, C makes a HIO, T would accept a HIO and reject a QPQO. This arises when A holds and B is violated, and E holds (ie., C prefers a HIO to nothing)

E. $x_1 >- \delta_1 x_2 + c - (1 - \delta_1)\pi$

In case 1.2, C makes a HIO, and T accepts any offer. This arises when A, B, C (C prefers a HIO to QPQO) and E holds (C prefers a HIO to nothing):

C. $x_2 > \frac{\delta_1\pi - \delta_2\pi + x_1}{\delta_2 - \delta_1}$

See the Appendix for proof. The reason the equilibria can arise in two distinct parameter ranges is that C's choice hinges on T's preferences. In case 1, T is willing to accept any offer. Therefore, China selects the best offer, knowing that if China made a different choice, T would also select it. When C1 is satisfied, it means that China strictly prefers a HIO over QPQO, and thus that is what we observe. In case 2, China is constrained by T's reaction. T will not accept the QPQO. Therefore, China cannot benefit from making that offer even if China prefers it. Here, China must weigh a high-interest offer against no deal. When condition D1 is satisfied, China prefers to make that offer.

Proposition 2: We observe a QPQO if either of the following conditions are met.

In case 2.1, C makes a QPQO, T would accept a QPQO and reject a HIO. This arises when B holds, A is violated, and D holds (A prefers a QPQO to nothing).

D. $x_2 > \frac{(c-\pi+\delta_2\pi)}{\delta_2}$

In case 2.2, C makes an QPQO, and T accepts any offer. This arises when A and B hold, D holds (C prefers a QPQO to nothing) and C is violated (C prefers a QPQO to HIO).

See the Appendix for proof. A similar logic determines when we observe QPQO. The reason we have two conditions is T's preferences matter. In case 1, T is willing to accept any offer. Therefore, China selects the offer that is best, knowing that if China made a different choice, T would also select it. When C1 is satisfied, it means that China strictly prefers a HIO over QPQO, and thus that is what we observe. In case 2, China is constrained by T's reaction. T will not accept the QPQO. Therefore, China cannot benefit from making that offer even if China prefers it. Here, China must weigh a high interest offer against no deal at all. When condition D1 is satisfied, China prefers to make that offer.

Proposition 3: We observe no offer if the stated conditions to support HIO or QPQO are violated.

This follows instantly because China has but three choices and we have exhausted the conditions under which we observe HIO or QPQO. But it is notable that we can observe no offer being made for many different logics. It is possible that T will not accept any offer. It is possible that China does not want to make one. It is also possible that their preferences are incomparable.

China wants to make one kind of offer only and T will not accept that offer (but will accept the other). In the next section we explore these nuances cases visually.

3.3 Empirical Implications

The following graphs are derived from the propositions to illustrate when an offer can occur, under which proposition, and which type of offer is made.

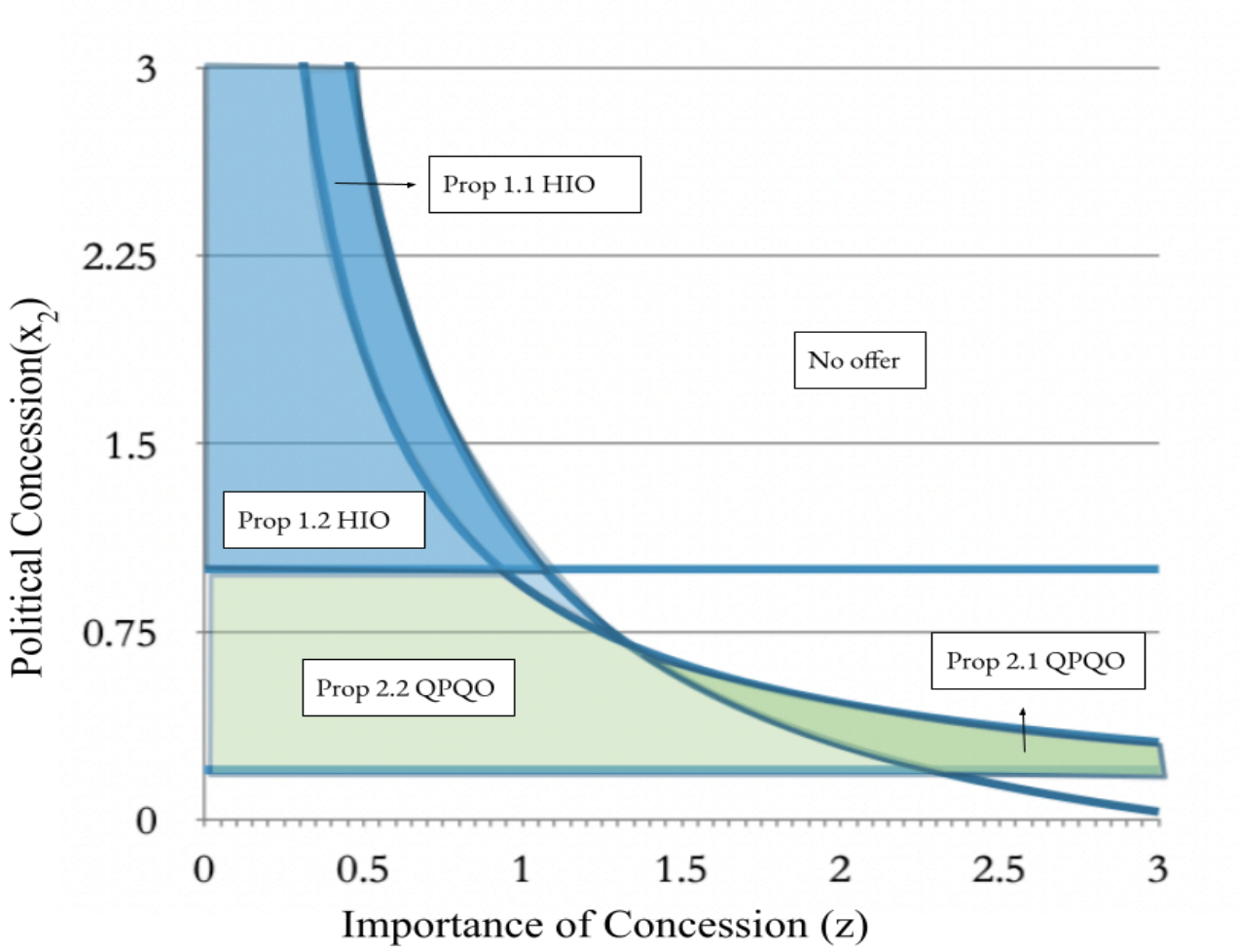

Figure 2. *The relationship between the importance of the concession and size of concession*

Figure 2 presents the equations as a function of z and x_2, mapping the conditions under which Quid Pro Quo (QPQ) Offers and High-Interest Offers (HIOs) occur. The white sections indicate areas where no offers are made. When the political concession is not of high value, we expect to see more QPQ Offers. These offers allow the importance of the concession to increase while still resulting in offers. HIOs occur at a lower threshold for z but a higher threshold for x_2. Simply put, we do not see offers when both z and x_2 are large, as the concession would be too valuable to lose, making the target unwilling to accept the offer.

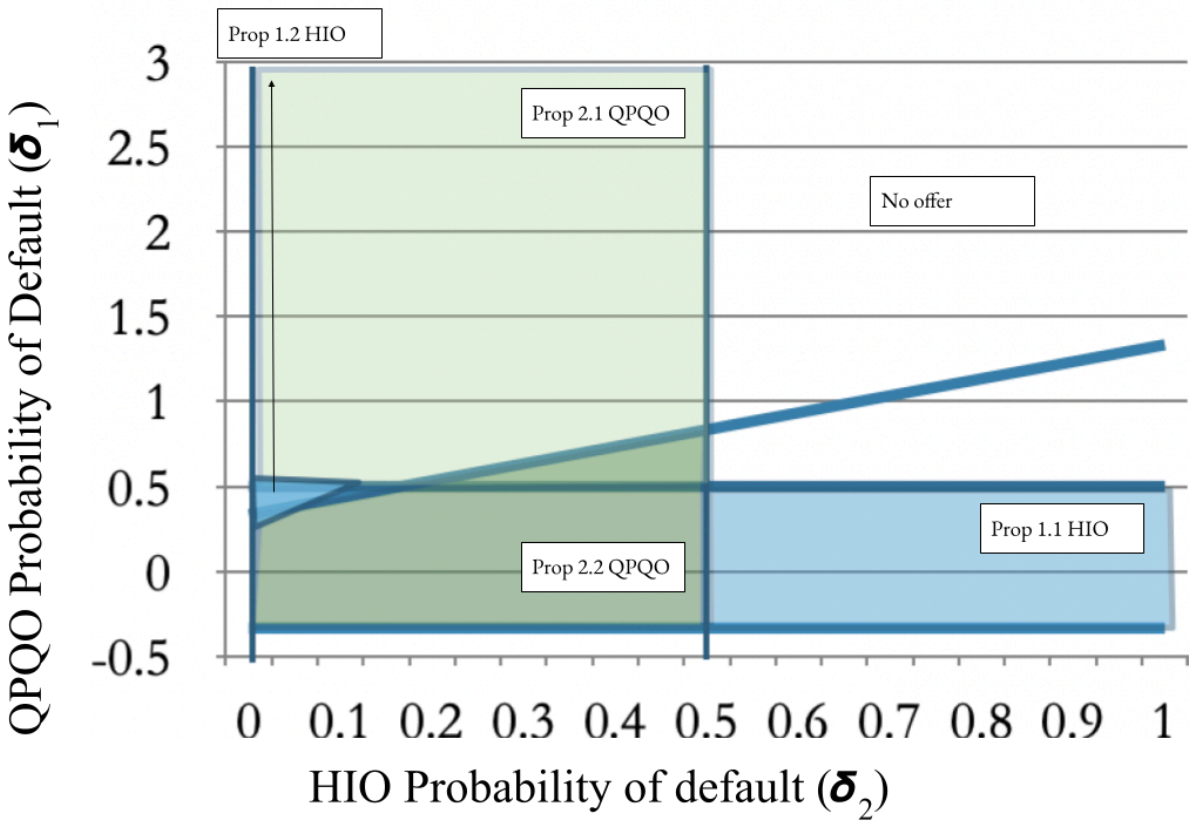

Figure 3. *The relationship between the probability of default in an HIO and the probability of default in a QPQO*

Figure 3 shows the equations as a function of δ_1 and δ_2, mapping where QPQ Offers and HIOs occur. HIOs are more likely at higher δ_2 values, with the exception of a small range of δ_2

and δ_1 values where an HIO is still possible. For QPQ Offers, there is a broader range of possible values, occurring at lower δ_2 levels and across all δ_1 values.

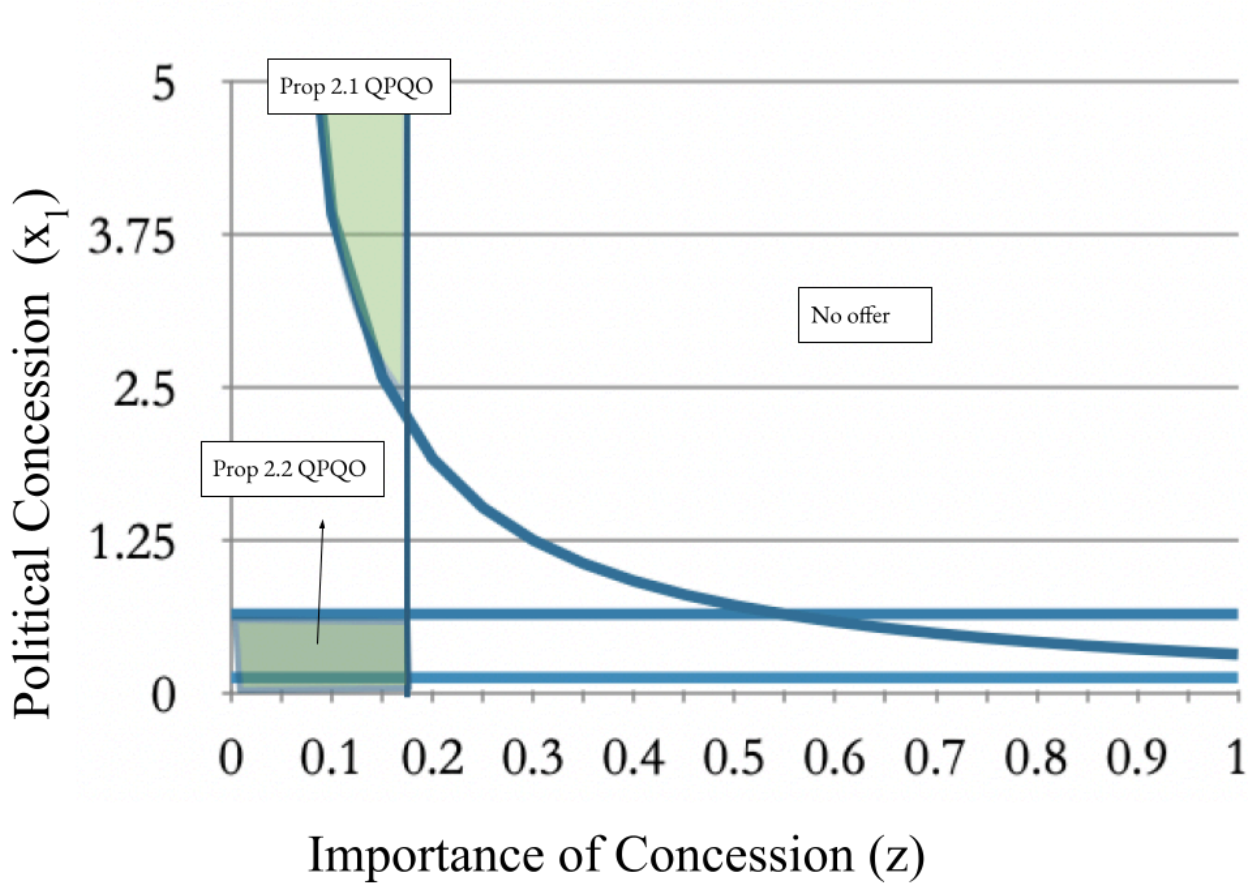

Figure 4. *The relationship between the importance of the concession and the political concession*

Figure 4 illustrates the relationship between z and x_1 in a Quid Pro Quo scenario. Offers occur under two conditions: first, when both z and x_1 are low; second, when z remains in a low-to-moderate range while x_1 is in a medium-to-high range.

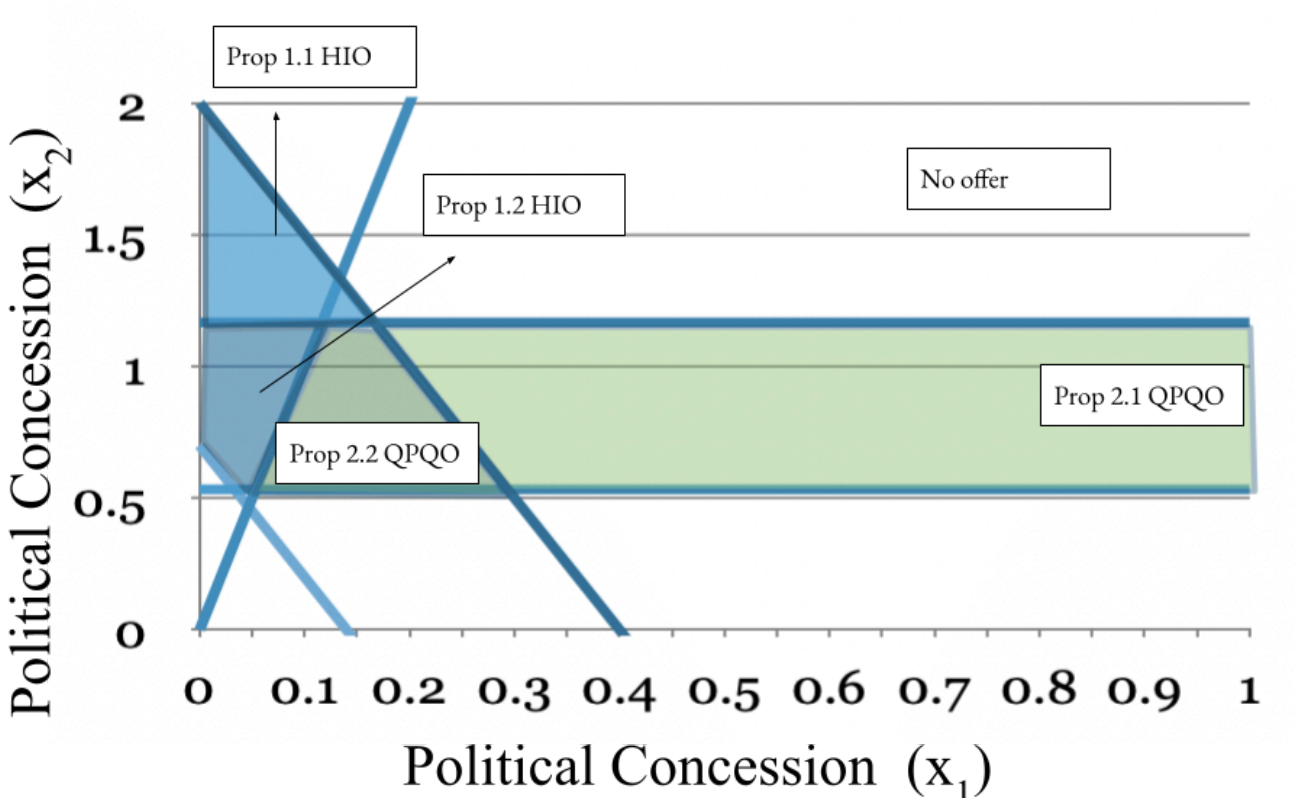

Figure 5. *The relationship between the political concession that occurs before an offer is made and the political concession that occurs in the case of default*

Figure 5 examines the relationship between x_1 and x_2 and how they influence the occurrence of QPQ and HIO offers. x_2 has a smaller range within which a QPQ Offer can occur, while x_1 can be relatively high for a QPQ to take place. In contrast, for an HIO to occur, x_2 must meet a minimum threshold, and x_1 must remain in the lowest range. This suggests that when x_1 represents only a small concession, China is more likely to extend a high-interest offer rather than a Quid Pro Quo arrangement.

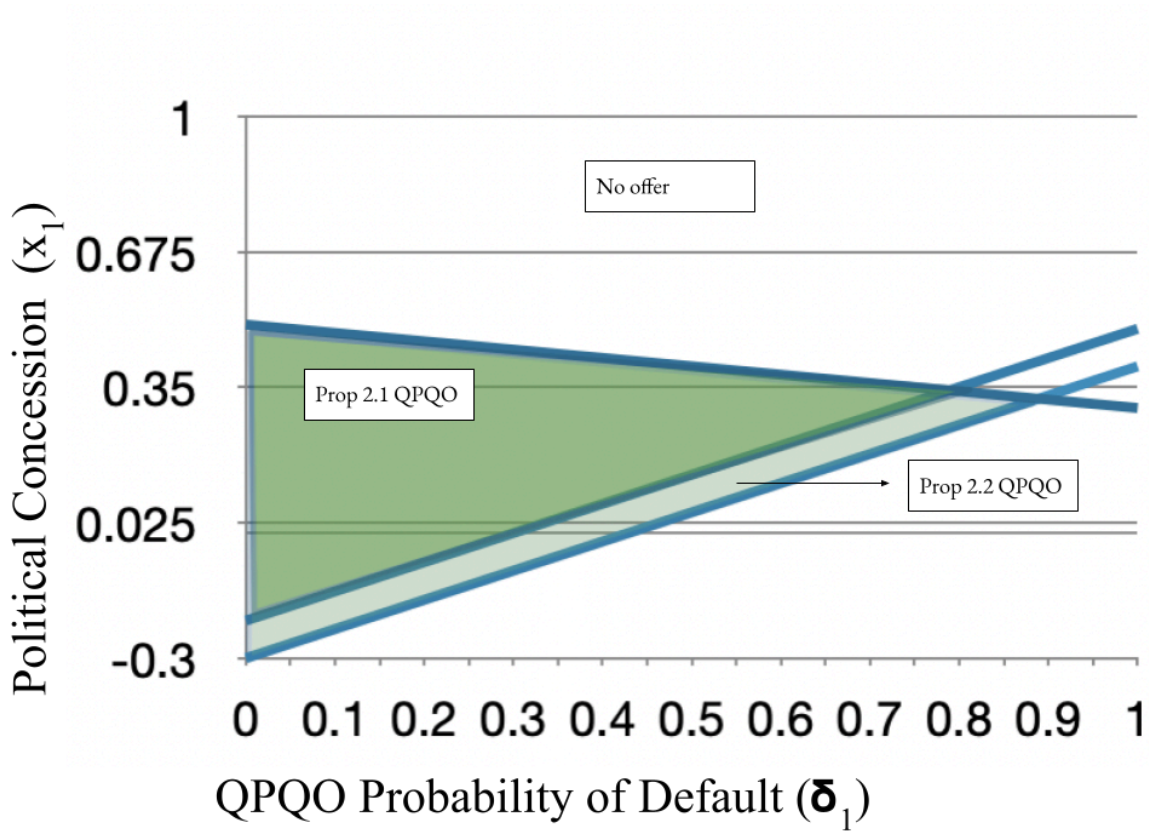

Figure 6. *The relationship between the probability of default in a QPQO and the political concession made before the offer*

Figure 6 demonstrates the relationship between δ_1 and x_1, specifically in the context of Quid Pro Quo offers. The graph reveals a maximum threshold for x_1 beyond which a QPQ is no longer viable. Additionally, as δ_1 increases, the acceptable range for x_1 decreases. This pattern suggests that as interest rates rise, targets become more cautious about offers requiring significant political concessions, reducing the likelihood of a QPQ occurring.

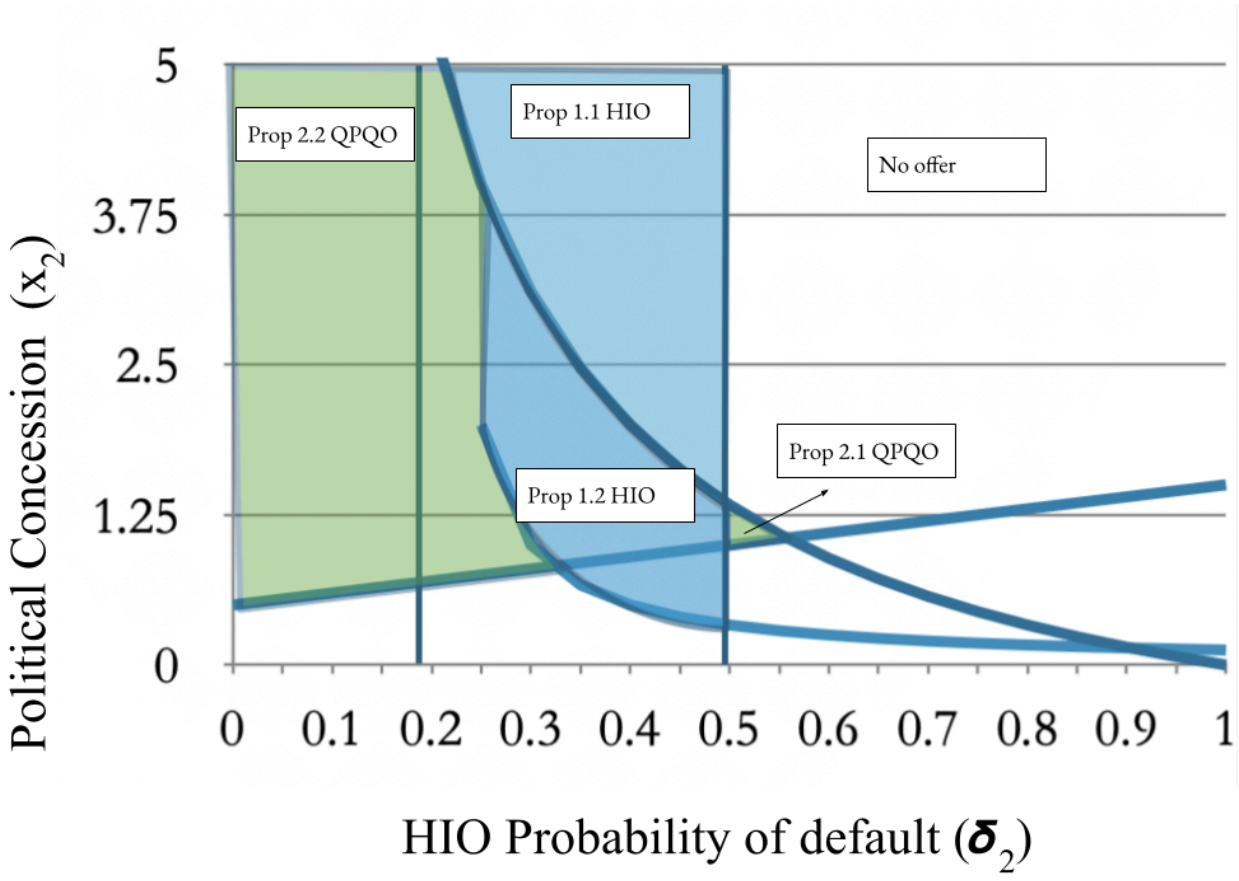

Figure 7. *The relationship between the probability of default in a HIO and the political concession*

Figure 7 demonstrates the relationship between the probability of default in an HIO (δ_2) and the size of a political concession that would occur in the event of a default or issues with the debt repayment (x_2). We see in this figure that when the probability of default for an HIO is low, China will opt to make a Quid Pro Quo offer. When the probability falls within the medium-to-low range, we expect to see an HIO made. In cases where the probability of default is higher than average, we observe a small number of Quid Pro Quo offers, but in most instances, we expect no offers to occur.

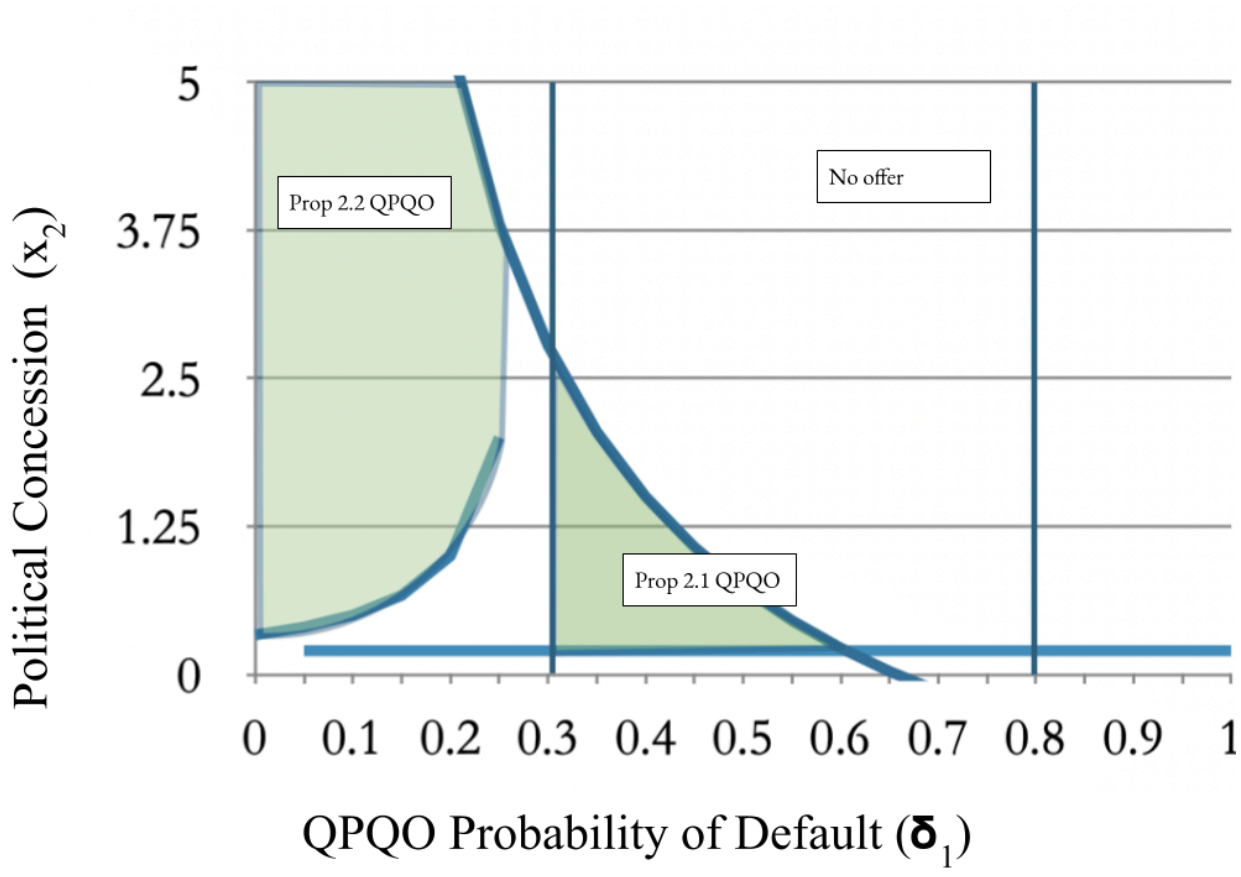

Figure 8. *The relationship between the probability of default in a QPQO and the political concession*

Figure 8 shows the relationship between the probability of default in a Quid Pro Quo offer and the size of the political concession after the event of default or being unable to pay back the loan. This graph only analyzes when we see Quid Pro Quo Offers occur. We see that offers are predicted to occur in medium and low ranges of probability for default. Additionally, when the probability of default is low, the range of the political concession grows.

4. RESULTS

The goal of this section is to illustrate two results of the model. Both a High Interest Offer and a Quid Pro Quo offer will be exemplified with real examples. This section demonstrates how these two mechanisms function in practice, shedding light on the strategic motivations behind sovereign lending.

First, I will show that the model is consistent with the existing experience of Sri Lanka. The Hambantota Port in Sri Lanka offers a real-life example of a High-Interest Offer through the BRI. As the model predicts, Sri Lanka struggled to repay the loans provided by China, and as a result, the Chinese government gained control of the port through a 99-year lease. This case exemplifies how high-risk lending can lead to the transfer of strategic assets when a borrowing country defaults. The structure of the deal reflects the model's expectation that financially distressed states may be forced to concede valuable infrastructure in exchange for debt relief, demonstrating the interplay between economic pressure and political leverage in sovereign lending.

Second, I will demonstrate a Quid Pro Quo offer through the investment in the Port of La Unión. Before El Salvador received investment from China, the country severed its diplomatic ties with Taiwan, aligning itself with Beijing's "One China" policy. Shortly after this diplomatic shift, China signed multiple Memorandums of Understanding (MOUs) with El Salvador, paving the way for increased economic cooperation, including potential investment in the port. This sequence of events aligns with the model's prediction that concessional loans or investments can be exchanged for political concessions. In this case, El Salvador's diplomatic realignment served as a prerequisite for securing Chinese investment, illustrating how economic incentives can be used as a tool to achieve geopolitical objectives.

4.1 SRI LANKA: THE HAMBANTOTA PORT

I now examine the features and predictions in the context of the Hambantota Port. The debt-trap diplomacy thesis arose, in large part, from Sri Lanka's experience after they joined the Belt and Road Initiative. This case was chosen as an example of a High Interest Offer.

4.1.1 Initial Project

The project was initially proposed by the government of former Sri Lankan President and Prime Minister Mahinda Rajapaksa. Sri Lanka had been attempting to finance the construction of the Hambantota Port project before China offered its investment.[32] Sri Lanka sought funding from various international sources, including India and Western financial institutions. However, due to concerns over the project's commercial viability, many lenders were reluctant to provide financing.[33] The Sri Lankan government, eager to transform Hambantota into a major trade hub and alleviate congestion at the Port of Colombo, struggled to secure adequate funding.

The need to secure this funding was the reason Sri Lanka sought investment from China. Although the port was not an economically viable option, there was still a desperate need for development. With China offering an investment with a lower-than-market rate, it seemed like a viable choice. Since Sri Lanka was actively seeking funding for port development, China could infer that a High-Interest Offer would be accepted, as it would still be lower than any other available market options.

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[32] Jones and Hameiri, "Debunking the Myth of 'Debt-Trap Diplomacy,'" (Chatham House, 2020).

[33] Jones and Hameiri, "Debunking the Myth of 'Debt-Trap Diplomacy.'"

This establishes China as a potential investor within this model. A feature outlined in the theoretical framework is that the lender must have the economic means to invest in the target country and the political motivations to do so. The economic initiative serves as evidence that China fits the description of a potential lender within the theory. Additionally, China has strategic reasons to be interested in the port of Hambantota, further supporting its role as a lending state within this framework.

4.1.2 Analyzing Default

An important feature of the HIO offer is that there is the possibility of a political concession if the country defaults. The cause of a default can vary, but in Sri Lanka, there were a few clear factors that impacted its ability to repay its debt. To begin, Sri Lanka already had a high level of foreign borrowing, which contributed to its accumulating debt levels. Additionally, Sri Lanka is a victim of the Middle-Income Country trap and lacks economic complexity. All of these factors increased the likelihood of default for Sri Lanka.

China is not the only country to which Sri Lanka is in debt. According to the Central Bank of Sri Lanka, 61 percent of the government's budget deficit was financed by foreign borrowing[34]. According to Jones, "Sri Lanka's debt crisis was made, not in China, but in Colombo, and in the international (i.e. Western-dominated) financial markets" [35]. This suggests that while Chinese loans have played a role in Sri Lanka's debt burden, a significant portion of its financial struggles stems from broader fiscal mismanagement and reliance on international credit markets. The struggle with debt began before the Belt and Road even began. Not only

[34] Central Bank of Sri Lanka, "Economic and Social Statistics of Sri Lanka 2016."

[35] Jones and Hameiri, "Debunking the Myth of 'Debt-Trap Diplomacy.'"

were their debt levels high due to foreign borrowing, this issue was also exacerbated by external factors such as fiscal mismanagement, which present a concern when making a decision to offer a large loan.

The total debt of Sri Lanka in 2017 was approximately USD 64.9 billion, of which USD 8 billion was owed to China [36]. This huge debt resulted from the decisions of the Rajapaksa government, which had obtained loans for large-scale infrastructure development projects from China without adequate assessment of their implications[37]. China has been a major lender to Sri Lanka, investing approximately $15 billion in the country through grants, loans, and direct investment. The country is currently trapped in the middle-income trap (MIT), where economic growth has stagnated, making the transition to high-income status difficult[38]. Although Sri Lanka's debt was not because of lending by China alone, why did China choose to offer a loan to Sri Lanka at a lower interest rate than anyone else would? The reason why the interest rate from other lenders was so high for Sri Lanka was because of their debt levels and past struggles with repayment.

The argument has been made that China was not the primary reason for Sri Lanka's high debt levels; therefore, their investment is not "debt-trap diplomacy". The main points of this argument involve examining the preexisting debt Sri Lanka had already incurred. While this argument has substantial evidence when analyzing Sri Lanka's debt levels, the question arises as to why China then decided to invest in Sri Lanka, knowing how much debt the country already had.

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[36] Patrick, "China - Sri Lanka Strategic Hambantota Port Deal," (National Maritime Foundation, 2017), 3.

[37] Patrick, "China - Sri Lanka Strategic Hambantota Port Deal."

[38] Dayaratna-Banda and Dharmadasa, "China's Belt and Road Initiative," 7.

As seen in Figure 3, we expect to see more HIOs as the probability of default increases. With Sri Lanka, their probability of default or struggling to pay loans was high since they had already accrued a large amount of debt. The case of Sri Lanka matches with this assumption.

For the Hambantota Port project alone, Sri Lanka had borrowed USD 1.3 billion from China at an interest rate of 6.3%.[39] The interest rate applies to the variable "c" in the equation, as it represents the amount of money that will be repaid to China, assuming the country is able to meet its loan obligations. According to reports from the Export-Import Bank of China (China Exim Bank), Chinese interest rates could range anywhere from 2% to 6.3%, although specific details remain unclear.[40] This interest rate is generally lower than China's overall market interest rate, making the investment riskier. With China placing such a large investment into Sri Lanka at a lower interest rate than the market rate, the investment became riskier. The Standing Lending Facility (SDFR) Rate for Sri Lanka over the past two decades has averaged out at 8%-8.25%.[41] [42] This rate is higher than the one offered by China, making China's offer appealing to Sri Lanka. We predicted for a High Interest offer that the interest rate would be higher than Quid Pro Quo offers, but still lower than the interest rate the market is offering to Sri Lanka. With this interest rate, it incentivizes Sri Lanka to take the offer even if it is still not economically ideal.

[39] Patrick, "China - Sri Lanka Strategic Hambantota Port Deal," 3.

[40] Jones and Hameiri, "Debunking the Myth of 'Debt-Trap Diplomacy.'"

[41] "Sri Lanka Interest Rate" (Trading Economics).

[42] Central Bank of Sri Lanka, "The Central Bank of Sri Lanka Maintains Policy Interest Rates at Their Current Levels," (2024).

According to a database created by the Observatory of Economic Complexity (OEC), Sri Lanka ranked 85th in the Economic Complexity Index and 90th in total exports[43]. This database assigns a score to each country based on the diversity and sophistication of its productive capabilities. The ranking of Sri Lanka indicates that it falls into the middle range when ranked by economic sophistication. This, along with the amount of debt Sri Lanka has accumulated, does not bode well for an investment with a low interest rate. Sri Lanka's relatively low economic complexity suggests that its economy relies more on basic or low-tech industries, such as textiles and agriculture, rather than advanced manufacturing or high-value exports. This limits the country's ability to generate substantial revenue from diverse and sophisticated industries, making it more vulnerable to economic shocks and external debt pressures.

The likelihood of default was impacted by all of these factors. This is important because with all of these considerations, the likelihood of Sri Lanka struggling to repay the debt is high. As a result, China would be expected to have an interest rate that reflects the risk they are taking. Additionally, as seen in Figure 7, we expect to see a HIO offer in the range of high medium probability of default. The case of Sri Lanka falls into this category and therefore supports this figure.

4.1.3 Strategic Goals in Sri Lanka

According to one account, China lent money to Sri Lanka to build a major port at Hambantota on Sri Lanka's southern coast, knowing that Colombo would experience debt distress and that this would allow Beijing to seize the port in exchange for debt relief, permitting

[43] "Sri Lanka (LKA) Exports, Imports, and Trade Partners," (The Observatory of Economic Complexity).

its use by the Chinese navy.[44] Indian commentators frequently argue that China is using the BRI to pursue "strategic ambitions" in South Asia, in this case, "creating a Chinese naval outpost" as part of a "salami-slicing approach", and argue that "there is little doubt that China's leadership would seek to leverage its possession for strategic gains."[45] As U.S. analyst Constantino Xavier has put it, "Beijing typically finds a local partner, makes [them] accept investment plans that are detrimental to their country in the long term, and then uses the debts to either acquire the project altogether or to acquire political leverage in that country."[46] Similar accounts are present throughout the media and across a wide range of think-tank and academic literature.

Within this initiative, there is a focus on eight fields – "infrastructure connectivity, economic and trade cooperation, industrial investment cooperation, energy resources cooperation, financial cooperation, cultural and people-to-people exchanges, ecological and environmental cooperation, and maritime cooperation – aiming at the construction of six Economic Corridors and two key directions."[47] The Economic Corridors connect various routes to enhance trade between Asian countries. The Six Economic Corridors are the New Eurasian Land Bridge, the China-Mongolia-Russia Economic Corridor, the China-Central Asia-West Asia Economic Corridor, the China-Indochina Peninsula Economic Corridor, the China-Pakistan Economic Corridor, and the Bangladesh-China-India-Myanmar Economic Corridor.[48] The first

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[44] Chellaney, "China's Debt-Trap Diplomacy," (The Strategist, 2017).

[45] Singh, "China's Strategic Ambitions Seen in the Hambantota Port in Sri Lanka," (Hindustan Times, 2018).

[46] Stacey, "China Signs 99-Year Lease on Sri Lanka's Hambantota Port," (Financial Times, 2017).

[47] Shang, "What Is the Belt and Road Initiative?," 2.

[48] Shang, "What Is the Belt and Road Initiative?," 2.

key direction follows maritime routes through the China Sea and the Indian Ocean toward South Asia, East Africa, and the Middle East.[49] The second key direction extends from the South China Sea to the South Pacific. These corridors and maritime routes serve as critical pathways for expanding regional cooperation, facilitating infrastructure development, and enhancing economic integration among participating countries.

The strategic position of the Hambantota port is a result of the location and how it enables more accessible trade throughout the Indian Ocean. This corridor is the maritime route through the China Sea and the Indian Ocean toward South Asia, East Africa, and the Middle East. The String of Pearls theory suggests that many of China's investments in key locations such as Sri Lanka, Maldives, and Pakistan are a part of a broader strategy to expand military and commercial influence in the Indian Ocean. This theory then implies security threats for countries such as India and Western nations. In 2004, U.S. defense contractor Booz Allen Hamilton (BAH) coined the term “String of Pearls” in a report submitted to the Office of Net Assessment at the U.S. Department of Defense to describe China’s strategy in the waters stretching south of the Eurasian continent.[50] According to this theory, China’s development of ports, infrastructure, and economic partnerships in these strategically located countries is not solely for commercial purposes but also serves to enhance its naval capabilities and geopolitical influence. The Hambantota Port, situated along major global shipping routes, is often cited as a prime example. Critics argue that such investments could provide China with a network of naval footholds and allow for increased military presence in the region. This has raised concerns among India and

[49] Shang, “What Is the Belt and Road Initiative?,” 2.

[50] Drun, “China’s Maritime Ambitions: a Sinister String of Pearls or a Benevolent Silk Road (or Both)?” (Center for Advanced China Research, 2017)

Western nations, who view China's growing influence in the Indian Ocean as a potential challenge to regional security and balance of power.

The political concession in the case of Sri Lanka is the Hambantota Port. This qualifies as a political concession as defined earlier because it strengthens China's position due to the strategic location of the port in southern Sri Lanka. The port allows for easier trade and strategic access throughout the Indian Ocean. The Hambantota Port, situated on the southern coast, is an essential asset for international trade. In July 2017, Sri Lanka entered into a 99-year Public-Private Partnership (PPP) agreement with China Merchants Port Holdings (CMPH).[51] The port was leased in exchange for $1.1 billion, which Sri Lanka used to pay down other debts and boost foreign reserves.[52]

Although the port is strategically important to Sri Lanka, the country still has the ability to access and use the port even under the lease to the Chinese government. Sri Lanka was desperate to secure funding for the port and therefore accepted the loan from China, despite the port's high value to the country. This decreased the significance of losing the concession due to the urgent need for funding. Since z decreases for Sri Lanka, we expected a High-Interest Offer to occur, as it involves a large concession. This is evident in the case of the Hambantota Port. Additionally, this port has a large strategic importance to Sri Lanka, but it is not a large ask to lend it out to a Chinese company because Sri Lanka and China tend to align on many issues.

Sri Lanka has historically maintained close relations with China, dating back to the first century BCE. According to the Lowy Institute Power Index, Sri Lanka's UN voting similarity with China was 85.5% in 2024, making China its third most similar voting country. In contrast,

[51] Jones and Hameiri, "Debunking the Myth of 'Debt-Trap Diplomacy.'"
[52] Jones and Hameiri, "Debunking the Myth of 'Debt-Trap Diplomacy.'"

Sri Lanka's similarity with the United States was only 31.6%, reflecting weaker alignment.[53] Given Sri Lanka's high UN voting alignment with China and its significant economic reliance on China, the relationship between the two countries appears to be driven by both geopolitical strategy and financial necessity. Political alignment plays into the variable focusing on the importance of the political concession for Sri Lanka (z). With closer political alignment we see the possibility of a larger political concession (x_2).

4.1.4 Regional Importance

In Europe and Central Asia, a total of 34 countries participate in the Belt and Road Initiative[54]. Within Europe, 18 EU member states have signed Memoranda of Understanding (MoUs) with China regarding their participation in the BRI, most of which are in Eastern Europe. Examples of BRI investments include Greece's Piraeus Port Authority, followed by a 51% acquisition of the asset by China's COSCO Shipping.[55] Additionally, infrastructure progress has been significant. According to Skala-Kuhmann, "Around 80 percent of trains from China make it their first European stop now, using the northern Silk Road route via Khorgos on the China-Kazakhstan border."[56] The ports and railroads developed in Europe are connected to China through Central Asia and other parts of Asia. Central Asia is also a crucial part of the BRI due to its strategic geographic location for China. Central Asia was also a crucial part of the belt and road due to its strategic geographic location for China. For example, the China–Pakistan

[53] Lowy Institute, "UN Voting Alignment – Network Power - Lowy Institute Asia Power Index."

[54] Nedopil, "Countries of the Belt and Road Initiative."

[55] Skala-Kuhmann, "European Responses to BRI: An Overdue Assessment," (Horizons: Journal of International Relations and Sustainable Development, 2019), 145.

[56] Skala-Kuhmann, "European Responses to BRI," 146.

Economic Corridor (CPEC) is one of the major corridors the BRI focuses on, and it is located in Central Asia.[57]

Three East Asian countries and six South Asian countries are also members of the BRI.[58] South and Southeast Asia were among the first participants when the initiative began, with the earliest projects focusing on railroad infrastructure. Notable projects in this region include the Thai-Chinese high-speed railway project, which raised concerns about Thailand's debt levels.[59] Additionally, the Philippines was a member of the BRI until President Bongbong Marcos took office in 2022, when the country partially withdrew due to concerns over the project's financial feasibility.[60] Other significant projects in the region include the China-Laos Railway and the Jakarta-Bandung High-Speed Railway in Indonesia. While these projects aim to enhance regional connectivity and economic growth, concerns over debt sustainability and transparency have hindered the successful implementation of some initiatives.

Major initiatives in the Middle East include maritime elements, as one of the key trade routes being developed under the BRI aims to increase connectivity between the region, South Asia, and Europe. The Middle East is also a crucial region due to China's reliance on oil imports. In 2019, about half of China's crude oil originated from the Middle East, along with 10–20% of its natural gas imports.[61] As a result, securing stable trade routes and fostering strong economic

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[57] Garlick, "The Regional Impacts of China's Belt and Road Initiative," (Journal of Current Chinese Affairs, 2020), 5.

[58] Nedopil, "Countries of the Belt and Road Initiative."

[59] Busbarat et al., "How Has China's Belt and Road Initiative Impacted Southeast Asian Countries?", (Carnegie Endowment for International Peace, 2023).

[60] Busbarat et al., "How Has China's Belt and Road Initiative Impacted Southeast Asian Countries?."

[61] Watanabe, "The Middle East and China's Belt and Road Initiative," (CSS Analyses in Security Policy, 2019), 2.

ties with Middle Eastern countries is a strategic priority for China. The BRI facilitates infrastructure investments, such as port developments and energy projects, to enhance connectivity and ensure a steady supply of resources.

4.1.5 Conclusion

The model exemplifies how the Belt and Road Initiative's investments in Sri Lanka have allowed a political concession to serve as repayment for Sri Lanka's inability to repay its loan. Although Sri Lanka had previous issues with debt repayment, China proceeded with its loan to fund the Hambantota Port. This loan was provided at a below-market interest rate, which was not an economically strategic decision, as many entities had previously rejected investing in this project due to concerns over Sri Lanka's debt levels. The port's location facilitates increased trade from the South China Sea to other regions, such as Africa, South Asia, and the Middle East.

4.2 EL SALVADOR: DIPLOMATIC RELATIONS WITH TAIPEI

El Salvador has been an interesting case of predatory loans from China. China's investments in El Salvador exemplify the Quid Pro Quo offer mapped out in the theoretical framework. This resulted from El Salvador removing diplomatic recognition of Taiwan and instead recognizing the People's Republic of China. With this switch, El Salvador aligned itself with China's "One China Policy," which China rewarded with investments in various projects.

4.2.1 Taipei to Beijing

In 2017, El Salvador removed its diplomatic recognition of Taiwan and, in 2018, officially recognized the PRC diplomatically. After this switch, China pledged funds for various construction projects and port facilities. One of these projects was the Port of La Unión, a Japanese-built port with a strategic location near the intersection of Salvadoran, Honduran, and Nicaraguan territory. This loan was offered at a below-market interest rate, and the port had previously been deemed a risky investment by the Taiwanese government. The concession before the offer in the model of a Quid Pro Quo offer, in this case, was the recognition of Taiwan.

El Salvador maintained a strong relationship with Taiwan until it withdrew its recognition of the island in 2017. This decision was driven by El Salvador's request for increased investment from Taiwan. Specifically, the Salvadoran government sought a large amount of funding for the development of the Port of La Unión in the eastern part of the country.[62] In response, Taiwan sent

[62] "The R.O.C. government has terminated diplomatic relations with El Salvador with immediate effect in order to uphold national dignity," (Ministry of Foreign Affairs of Republic of China (Taiwan), 2018).

a team to assess the feasibility of the project.[63] The assessment concluded that the project could pose significant debt risks for both Taiwan and El Salvador.[64] As a result, Taiwan declined to extend an investment offer to El Salvador.

In August 2018, El Salvador officially recognized China under the Farabundo Martí National Liberation Front (FMLN) government.[65] In return, Beijing sent 3,000 tons of rice and pledged $150 million toward 13 infrastructure projects, though few had been realized as of 2021.[66] In the early days of diplomatic recognition, the PRC proposed a series of projects that included not only the construction and operation of port facilities but also the establishment of six special economic zones (SEZs), covering 14 percent of the national territory, primarily in areas politically aligned with Sánchez Cerén's FMLN. The most significant proposed projects centered on transforming the Port of La Unión into a regional logistics hub to be operated by Chinese companies.[67]

This decision to switch from diplomatic relations with Taiwan to China is categorized as x_1 in the Quid Pro Quo Model. Due to Taiwan refusing to provide funding for the port in El Salvador, the importance of that relationship decreased. With offers of money from China, the significance of Taiwan's relationship with El Salvador diminished further, as El Salvador was able to find the necessary funding elsewhere. As shown in Figure 4, z cannot be too high, or the

[63]"The R.O.C. Government Has Terminated Diplomatic Relations with El Salvador."

[64] "The R.O.C. Government Has Terminated Diplomatic Relations with El Salvador."

[65] Ellis, "China and El Salvador: An Update," (Center for Strategic and International Studies, 2021).

[66] Ellis. "China and El Salvador: An Update."

[67] Ellis. "China and El Salvador: An Update."

target will not accept the offer. As z decreased in this situation, it made an offer from China more viable.

Although El Salvador had debt issues, they were not extremely severe. This placed the country in the middle range in terms of its likelihood of defaulting on its loans. The size of the political concession was not large, primarily due to its diminishing relations with Taiwan. As shown in Figure 6, when the probability of default is in the medium range and the size of the political concession falls within the medium to low range, we expect a Quid Pro Quo offer to be made, which is what occurred in the case of El Salvador.

Before El Salvador switched their recognition from Taiwan to the PRC, El Salvador's exports to China rose from an almost insignificant $6.1 million in 2002 to $47.4 million in 2017.[68] Additionally, the imports over that same period went from $68.9 million to $920 million in 2017. The number of imports from China to El Salvador was about 19 times more than the value of its exports. Their economic relationship over the fifteen years before their diplomatic relations began showed a clear uneven amount of exports from El Salvador to China. The timing of El Salvador's diplomatic shift in 2018 adds evidence to the belief that economic incentives played a role in its decision to recognize the PRC, especially given China's track record of using trade and investment as tools for diplomatic leverage.

In the early days of diplomatic recognition between the two countries, many projects were proposed, including the construction and operation of port facilities.[69] The most significant proposed projects were focused on converting the port of La Unión into a regional logistics hub

[68] Ellis, "China and El Salvador: An Update."

[69] Ellis, "China and El Salvador: An Update."

to be operated by Chinese companies. El Salvador has yet to officially join the Belt and Road Initiative, but its economic relationship with China has been expanding since diplomatic ties were established.[70] During a visit in March 2020, President Nayib Bukele signed a series of Memoranda of Understanding (MOUs) in which China pledged $500 million for development projects.[71] These included a sports stadium, a new $40 million national library in San Salvador, a tourist pier in La Libertad, $85 million to improve water treatment facilities in La Libertad and Ilopango, and $200 million to support Bukele's "Surf City" project.[72] Since the establishment of diplomatic relations, trade between the two countries has continued to grow. In 2023, China exported $2.44 billion to El Salvador.[73] Over the past five years, China's exports to El Salvador have increased at an annualized rate of 8.41%, rising from $1.63 billion in 2018 to $2.44 billion in 2023.[74] In the same year, El Salvador exported $18.2 million to China.This growing economic engagement between El Salvador and China extends beyond infrastructure projects and trade agreements, highlighting deeper structural differences in their economies and the potential challenges El Salvador faces in navigating this relationship.

These investments fit into the model as **c** and **b**. For El Salvador, these investments provide the opportunity to gain an asset if the country successfully repays China. For China, this investment represents the risk it is taking. If El Salvador is unable to repay the loan, how does China intend to compensate for this loss, and how likely is that scenario to occur?

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[70] Ellis, "China and El Salvador: An Update."

[71] Ellis, "China and El Salvador: An Update."

[72] Ellis, "China and El Salvador: An Update."

[73] "China (CHN) and El Salvador (SLV) Trade," (The Observatory of Economic Complexity).

[74] "China (CHN) and El Salvador (SLV) Trade."

4.2.2 The Chance of Default

In a Quid Pro Quo it is assumed that the likelihood of default is lower than in an HIO and a market rate offer. This is due to an upfront political concession from the Target to incentivise China to offer a loan with more preferable terms. The possibility of default still exists but is affected by the complexity of the Target's economy, the amount of debt the target already has, and the interest rate offered. As seen in Figure 3, we expect to see more Quid Pro Quo Offers as the probability of default decreases. With El Salvador, their probability of default or struggling to pay loans wasin the medium range, therefore resulting in a Quid Pro Quo offer. According to the Observatory of Economic Complexity (OEC), El Salvador ranked 63rd in the Economic Complexity Index and 118th in total exports, with a total of $6.76 billion.[75] This ranking system evaluates countries based on the diversity and sophistication of their productive capabilities. El Salvador's position indicates that its economy is less complex and more reliant on lower-value industries compared to China. The ranking of El Salvador shows that it falls into the middle range when ranked by economic sophistication. In contrast, China ranked 21st in the Economic Complexity Index (ECI 1.16) and 1st in total exports, reaching $3.42 trillion in 2023.[76] This imbalance suggests potential vulnerabilities for El Salvador, as its reliance on a limited set of export industries makes it more susceptible to external economic shocks and limits opportunities for higher-value trade integration.

The interest rate in El Salvador averaged 4.67 percent from 1995 until 2025.[77] The interest rate for the loan from China is not clear, most likely due to the confidentiality clauses in

[75] "China (CHN) and El Salvador (SLV) Trade."

[76] "China (CHN) and El Salvador (SLV) Trade."

[77] "El Salvador Interest Rate," (Trading Economics, 2025).

many of the contracts for China's BRI loans. El Salvador's interest rate on foreign loans from China is most likely influenced by China's Loan Prime Rate (LPR), which the People's Bank of China kept at 3.1% for 1-year and 3.6% for 5-year loans.[78] Based on this interest rate, if China used their LPR, it would be below the average interest rate for El Salvador. The reason for their interest rate being at this level is due to El Salvador's ability to repay loans. Although the difference between their average interest rate and China's loan interest rate is less than Sri Lanka's interest rate and China's loan interest rate to Sri Lanka, it is still significant that China offers an interest rate below the average offer. Additionally, In 2018, when El Salvador initially received investments from China, their debt level was at 52.2% of their total GDP.[79] El Salvador had already accrued a large amount of debt, but China still decided to invest in them with a lower than generally offered interest rate.

With El Salvador having a medium economic complexity, this allows for more vulnerabilities in their economy. Additionally, the debt levels of El Salvador result in a concerning feature during the assessment of if an investment should be made to El Salvador. Last of all, the interest rate in El Salvador is an indicator of their ability and others' confidence in El Salvador to repay loans. With China offering a lower interest rate, they will not be receiving that high interest rate as collateral for the chance of them losing their investment so they may need to consider how they would be repaid if El Salvador were to struggle with their repayment.

[78] "China Loan Prime Rate," (Trading Economics).

[79] "Central Government Debt, Total (% of GDP) - El Salvador," (World Bank Open Data).

4.2.3 Strategic Motivations in El Salvador

The United States, historically El Salvador's largest trading partner and a key provider of aid, has also expressed concerns over China's growing influence in the region, warning of potential risks associated with debt dependency and reduced transparency in Chinese-funded projects. In 2017, the total of exports from the United States to El Salvador was $3.3 billion and exports from El Salvador to the United States was $2.69 Billion.[80] This strong relationship still continues today with U.S. goods exports to El Salvador in 2024 were $4.6 billion and El Salvadorian exports to the United States totalling $2.3 billion.[81] The steady flow of trade between the two countries underscores the deep economic ties that have long defined the U.S.-El Salvador relations. Washington's concerns over China's growing presence in El Salvador reflect broader geopolitical tensions, as the United States seeks to counter Beijing's expanding influence in Latin America. Specifically regarding the Port of La Union the United States indicated its concerns to China's investment in the port and the shift of diplomatic relations[82]. The United States' concerns over the Port of La Unión and broader Chinese investments reflect fears that Beijing's influence could undermine U.S. interests in the region.

The Port of La Unión itself, originally a Japanese-built deepwater port, holds significant strategic importance. The port was originally built between 2005 and 2008 and inaugurated in 2010 and is located in the Gulf of Fonseca, it sits at the intersection of Salvadoran, Honduran, and Nicaraguan territory.[83] China has previously proposed expanding the port and establishing

[80] "China (CHN) and El Salvador (SLV) Trade."

[81] "El Salvador," (Office of the United States Trade Representative, 2025).

[82] Ellis, "China and El Salvador."

[83] Villacorta, "China increases its interest in Central America: El Salvador, the last piece of the puzzle," (University de Navarra: Global Affairs and Strategic Studies).

trade zones that would exclude U.S. and European companies. This would allow Chinese port operators, shipping companies, and service providers to dominate the zones, raising concerns about China's growing influence in the region.[84] These concerns are amplified by broader geopolitical tensions, as the United States has expressed unease over China's expanding footprint in Latin America. Given the port's strategic location, increased Chinese involvement could grant Beijing greater control over regional trade flows and maritime logistics, potentially limiting access for Western companies.

This port represents a possibility of x_z or b in this scenario. If El Salvador is able to repay China, it will receive the benefits of having the port constructed, making it the asset they acquire (b). However, if a default occurs, a political concession could take place. While this has not yet happened, there are frequent discussions speculating on the potential transfer of the port if El Salvador defaults and whether China might attempt to take control of it for maritime strategic interests.

4.2.4 Regional Importance

Although not in the original plans, Latin America and the Caribbean (LAC) region became of interest to the initiative approximately 4 years after the initiative started.[85] By 2018, 7 LAC countries had opted to participate in the BRI including Panama, Trinidad and Tobago, Antigua and Barbuda, Bolivia, Peru, Ecuador, and Chile.[86] Currently, 22 countries in Latin America and the Caribbean have joined the BRI.[87] In comparison to other regions where the BRI

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[84] Ellis, "China and El Salvador."

[85] Myers, "China's Belt and Road Initiative," 239.

[86] Myers, "China's Belt and Road Initiative," 240.

[87] Nedopil, "Countries of the Belt and Road Initiative."

operates, there is a relatively small presence of investments in Latin America and the Caribbean. Partially, this is due to the time in which the countries became members, since most of the countries in Latin America joined later. The 15 ports in the region account for 16% of all PRC overseas ports and only five of those ports were initiated by Chinese companies after 2014.[88]

Economic ties between China and many Latin American countries is overall high, although it remains second to Latin American ties with the United States. In Latin America, in a survey conducted on the top foreign economic partnerships surveyed the United States as the top choice for all of the three countries surveyed, but a third of the population of these countries still ranked China as the top economy in their respective countries.[89] This demonstrates that while the United States remains the dominant economic partner in the region, China's influence is substantial and continues to shape Latin America's economic landscape.

4.2.5 Conclusion

The model exemplifies how El Salvador was able to receive a loan offer with a lower interest rate from China. When El Salvador withdrew its diplomatic recognition of Taiwan and recognized China instead, it incentivized China to offer an investment with a lower interest rate than El Salvador had previously been offered. This exchange allowed China to expand its geopolitical influence by advancing its “One China” policy. The Port of La Unión, for which China provided a loan, had previously been assessed as a risky investment due to El Salvador’s debt levels. However, the port’s strategic location increased its importance to both El Salvador and China, resulting in the Quid Pro Quo offer.

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[88] Kardon, “Examining the PRC’s Strategic Port Investments in the Western Hemisphere and the Implications for Homeland Security,” (Carnegie Endowment for International Peace, 2025).

[89] Silver, Devlin, and Huang, “China’s Economic Growth Mostly Welcomed in Emerging Markets, but Neighbors Wary of Its Influence,” (Pew Research Center, 2019), 9.

5. CONCLUSION

Through the cases of the Belt and Road Initiative in Sri Lanka and El Salvador, the theoretical framework has been supported. The case study of Sri Lanka and the Hambantota Port illustrates a High-Interest Offer (HIO). When China initially invested in the port, it was considered a risky investment—one that many other investors avoided. After Sri Lanka struggled to repay its debt, the port was leased to a Chinese company to generate the funds needed for repayment.

The case of El Salvador exemplifies a Quid Pro Quo Offer, with diplomatic recognition of Taiwan serving as the political concession. The year after El Salvador began recognizing the People's Republic of China, China invested in a port that had previously been deemed unfeasible for investment. The possibility of a second concession remains uncertain, depending on whether El Salvador can continue making its loan repayments.

Beyond the specific cases of Belt and Road investments, this thesis seeks to develop a model for predicting the behavior of actors engaged in predatory lending. While this practice is not unique to China, it has garnered significant media attention in relation to the Belt and Road Initiative. Other actors have previously employed this strategy, and this thesis aimed to analyze when offers occur and what type of offer is made in a given context. This model enables the prediction of actors' actions, providing insight into when and why predatory lending occurs.

Appendix

Below are the Relevant Equations:

Equation A defines when the Target prefers to accept an QPQO rather than reject it:

A. $z < \frac{(1-\delta_1)b}{-\delta_1 x_2 - x_1}$

Equation B defines when the Target prefers to accept an HIO rather than reject it:

B. $z < \frac{(1-\delta_2)b}{\delta_2 x_2}$

Equation C. defines when China prefers an HIO rather than a QPQO offer under the assumption that the Target will accept both.

C. $(x_2 - c)(\delta_2) + (\pi - c)(1 - \delta_2) > (x_1 + x_2 - c)(\delta_1) + (x_1 + \pi - c)(1 - \delta_1)$

Equation D. defines when China prefers a QPQO rather than no offer. This is under the assumption that the Target will accept a QPQO. This occurs if and only if:

D. $(x_1 + x_2 - c)(\delta_1) + (x_1 + \pi - c)(1 - \delta_1) > 0$

Equation E. defines when China prefers an HIO rather than no offer. This is under the assumption that the Target will accept an HIO. This occurs if and only if:

$(x_2 - c)(\delta_2) + (\pi - c)(1 - \delta_2) > 0$

Proof of Proposition 1.

Proposition 1 describes two more specific equilibria we treat separately. The first conjectures T accepts a HIO and rejects a QPQO. We solved for T's incentives in the preliminary analysis. This solves for the claims about what T does given whether conditions A or B hold.

Turning to C's incentives, C has three choices. We know that C never makes an offer that T will not accept, therefore we rule out the possibility that C makes a QPQO, as desired. We now focus on C's incentives to make a HIO versus no offer. C prefers this if

$$(x_2 - c)(\delta_2) + (\pi - c)(1 - \delta_2) > 0$$

This condition rearranges to condition D, as stated in the equilibrium. This completes the proof.

The second equilibrium conjectures that T accepts any offer, which are similarly solved in the preliminary analysis. Turning to C's incentives, C has the same three choices. Now that T will accept both offers, we must consider the additional possibility that C can profitably deviate from the stated strategies to a QPQO. C prefers a HIO over a QPQO offer if:

$$(x_2 - c)(\delta_2) + (\pi - c)(1 - \delta_2) > (x_1 + x_2 - c)(\delta_1) + (x_1 + \pi - c)(1 - \delta_1)$$

This solves for equilibrium condition C, as desired. This completes the proof.

Proof of Proposition 2.

Proposition 2 describes two more specific equilibria we treat separately. The first conjectures T accepts a QPQO and rejects a HIO. We solved for T's incentives in the preliminary analysis.

Turning to C's incentives, C has three choices. We know that C never makes an offer that T will not accept, therefore we rule out the possibility that C makes a HIO, as desired. We now focus on C's incentives to make a QPQO versus no offer. C prefers this if

$$(x_1 + x_2 - c)(\delta_1) + (x_1 + \pi - c)(1 - \delta_1) > 0$$

This condition rearranges to condition E, as stated in the equilibrium. This completes the proof.

The second equilibrium conjectures that T accepts any offer, which are similarly solved in the preliminary analysis. Turning to C's incentives, C has the same three choices. Now that T will accept both offers, we must consider the additional possibility that C can profitably deviate from the stated strategies to a QPQO. C prefers a HIO over a QPQO offer if the following equation is violated:

$$(x_2 - c)(\delta_2) + (\pi - c)(1 - \delta_2) > (x_1 + x_2 - c)(\delta_1) + (x_1 + \pi - c)(1 - \delta_1)$$

This solves for the equilibrium condition C. as desired. This completes the proof.

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