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REMITTANCE SHOCK TRANSMISSION THROUGH BANKING NETWORKS: A PANEL SVAR WITH SPATIAL INTERACTIONS

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ABSTRACT
This study analyzes how instability in cross-border money funds is able to affect the functioning of local banking systems due to various economic and political concerns. The world's increasing population migration patterns have forced many families to rely on the new money sent by their migrant workers through remittances. The economic effects of remittance shocks, including the methods through banks have not received adequate exploration. This research seeks to explore the effects of remittances on the economies of countries by considering its direct and indirect impacts through the use of Spatial Vector Autoregressive (SVAR) models to determine cause and effect relationships among related geographic areas. We're using data from over 50 countries from the past 20 years and several standard approaches commonly used in economics and finance to determine the relationships between one event and another. The study suggests that a sudden unexpected halt in money sent to family can affect financial stability either right away <linebreak> or intensely in other parts of society <linebreak> increasingly in regions outside the countries of origin. This study is valuable because it shows us how remittances flow through banking systems. It helps us create a more globalized economy and find opportunities and fix downfalls in the system.

Keywords: Remittance shocks, banking networks, Spatial Vector Autoregressive model, spatial interactions, cross-border money flows, financial stability, panel data analysis.

INTRODUCTION
This role in the world market has lately proliferated, to the mighty advantage of those poorer places and their forms and means of e-economics. Remittances are crucial to helping the families of millions of people around the globe stay financially stable. In low- and middle-income countries, supplementary income for households isn't just an extra source of income but a survival tactic, funding basic things such as food and housing. Beyond the families, remittances also play a big economic role by helping to keep the

country's economy going. The income sent back to a family helps them due to international worldwide movements into improved placement options. Last year, the global amount of money sent by foreign workers to their families reached almost 700 billion dollars. The countries who were the most to receive money from these kinds of sources were such as such low-income and middle-income countries, receiving a total amount of 500 billion dollars. Globalization is a stabilizing force to the financial market. It creates an impact on these unstable areas, cushioning the conditions they are subjected to.

The effects of remittances and shocks on the economies are understood, but less understood are the effects on banking networks and the overall financial system in a country. When sending countries experience problems like economic downturns, strict immigration laws, or changing exchange rates, it can lead to a sharp decline in the amount of income received through International Workforce. The world's recent COVID-19 pandemic is a perfect example of how crises can stress these well-being programs and leave families in more vulnerable conditions. Shock can have big of impacts, there are families that have it as daily earnings to be dependable with and for the bigger banks because most of the money ends up in there.

Banks handle the process of sending money from one location to another. Formal institutions, like banks, supply regulated spots to complete transactions in a safe and beneficial fashion compared to being informal. These amounts people send abroad increase how involved financially that country is, recording more transactions than normal, and clearer cash in the system whereas it had slowly lost it. During shocks, the effects can spread quickly to banks, essentially upsetting the stability maintained. Less money is coming in; therefore, lower bank deposits and liquidity. It may even raise credit risk if people stop paying for loans due to money worries in other countries. Despite the crucial significance of this process, how it influences banking systems has yet to be fully studied.

New research lays the ground for the establishment of remittance flows and their several influences on a country's financial stability. Recent studies have focused on the larger effects of international remittances, looking beyond their use as a response to poverty, but as a driver of development itself and of huge impact. There's getting to be a greater knowledge that looking closer at locations could help analyze money being sent back to other countries. Remittances move between countries through large, international networks, meaning that ups and downs affect trade economy across more than one country. Instead, they will grow and flourish and be a threat. They can cause problems. It requires looking at the financial transfers in a broader way, beyond just the money it brings in the country.

The reason behind university studies of financial network shocks is due to the system's increasingly interconnected structure. The global economy has become interconnected, meaning that if the banking system of one country fails, it can be felt by the banking systems of other countries around the world. The banks of different countries are throwing away borders when it comes to money. Deposits in multiple receiving countries can be severely comprised by a problem originating from a single major remittance sending country. The safety of a bank is not only a national concern but also a worry for the neighboring countries and potentially worldwide.

Knowing how sudden money problems spread within economy is important. Remittances are not just exchanged money between two people; they're the end result of many complicated transactions. A significant loss of financial funds sent to countries by migrant workers from the Gulf States and South Asia can badly affect multiple South Asian countries in a number of ways. These money transfers have a huge impact in regions where they compose a large amount of a country's financial value.

Therefore, the research that is being done to help the Society Motherland needs to be focused toward the indirect impacts of remittances. Studies of money sent back home have largely overlooked the broader impact on financial systems. The growth of financial networks internationally is leading many poor countries to rely heavily on money sent in by people working abroad. Regular updates will provide those responsible with a clearer idea as to how predictable banking is. This aid will make crises easier to circumvent.

This paper is to contribute to the research by looking at how shocks from remittances spread over regions not only within national borders but in the financial systems in different places due to banking networks. Research along the lines of the study of how the expanse of difficult economies baffles international concerns was started so grown countries can feel secure about possible bad outcomes, but it might not usually work the way those countries expect. The economy is what causes things to go unintentionally off of track here but in a way it helps its actually good but the secret to it is making policies that will help with this process somehow.

Research Question and Hypothesis

We have to address a big issue either now or later. The closer we are to solving crises, the more effective our strategies are. The ability to move money across borders has become more essential recently for many struggling countries. They expect such economic problems to significantly harm the banks being used, there. However, a different perspective suggests that the consequences of this phenomenon will indeed have negative effects on countries near.

Objectives of the Study

1. Quantify the direct and indirect impacts of remittance shocks on financial stability.
2. Examine the spatial dependencies between countries' banking systems.
3. Analyze the role of banking networks in propagating these shocks across borders.

LITERATURE REVIEW

The main point has been on big impact and its importance in his help from a big country being a recipient of help. He thinks that many smaller countries have enough money. Eradicating poverty in one community can be found even in the smallest degrees of progress and is responsible for the benefits in the others surrounding it and around through diverse perspectives of reporting. Money is being sent from people in other countries to people in third world countries. This process reduces poverty and improves healthcare.

While experts have recently acknowledged the transient costs of remittances, experts ignore how these monies stabilize banking systems. During an economic downturn, losing a large amount of foreign money can cause chaos for a government's economy. As shown in research from the past remittances have offered stability when economies have fallen, but a lack of sufficient money in the economy has brought about uncertainty. Countries getting huge amounts of foreign money needn't worry because foreign capital can make up for their downfalls.

New studies are revealing poorly understood cash flow impacts that can cause imbalances in different money transmitters neighboring areas. If the countries lose these big amounts of money, even related countries would also receive shocks. When a recession occurs in one country it can cause economic problems in other countries that share a border with the country. A major slump in financial support from Returning immigrants has caused this hardship overseas. Some scholars have compared how emergencies move through one group through another one actually. The US's global economic problems don't have enough of a basis.

Researchers must use spatial econometrics to come up with a effective system to handle remittance shocks positively. Economic models can identify the relationships between different locations on a map by studying the value of each given location over time, whether they be proximate or distant. Spatial vector autoregressive models provide a sharp picture of movement between various economic factors based with the understanding that even distanced areas maintain correlation. Many experts believe they should also help settle the problems they may cause financially. They can do this with remittance methods.

The SVAR model allows past relationships between countries such as those nearby a bank system to be accounted for. A sudden change in one country foreign money exchange can have disastrous effects for nearby countries. Researchers can effectively measure spillovers and their influence on local economies using SVAR models that consider spatial interactions. Policy makers can consult economic models to forecast locations most vulnerable to economic downturns, derive areas to prioritize to preserve the banking system. Methodologies referred to as Vector Autoregressions, or SVAR, have become more popular for economic forecasting, but machine learning algorithms could improve their accuracy. Using artificial intelligence has greatly improved analysts' forecasts by making use of patterns from different systems and sub formats, providing better results and playing a higher part in their work. The newer smartphone apps incorporate machine learning, and really good at handling really big and complex data with relationships. The flow of money can change under different circumstances. Machine learning has not been fully utilized to study how the economy of a country affects its citizens and the overall respect of human rights on the population.

Remittance payments have proven to greatly help stabilize countries financially through all economic fluctuations. Remittances provide big economic help when times are tough, even helping out countries with unstable economies that can't seem to catch a break. Remittances from people living abroad can become a valuable asset to those countries that are experiencing income loss as a result of their exports and investments abroad. When countries receive backing money from workers who are living and working abroad in other countries then those countries will have to take money from other sources that workers aren't even using like these citizens' bank relations.

Sending money abroad by emigrants has the potential to stabilize a country's economy in times of economic crisis by lending money overseas to stronger banks. The countries hit hardest by economic decline had smaller economies to begin with and large remittances. Nationwide cash shipments overseas appeared less during this study period in comparison. Countries that have many people who regularly send money home are more likely to change economically due to large amounts of money sent overseas, altering banking and their economy.

The economic effects of those sudden downward income spikes are felt worldwide. An economic crisis in a country that sends a lot of money can cause problems for the countries that are trading and getting different services with them with it. A study by ship and ozden exhibited that the countries near to the recipients of remittances are able to feel the effects of said funds even if it isn't going to them directly. Remittance fluctuations can have significantly negative outcomes in countries dependent on these transactions.

Despite the increasing trend, there are significant gaps in the subject matter, including remittances impact on banking. Only a few studies of financial crises present the overall effect of a shock on the entire financial structure of a society and it's interactions with outside countries. Economic studies have primarily centered on the effects of remittances however, other important issues pertaining to remitted funds have received little recognition.

The authors explore the complex process of sending money home by using the reason for it and looking at it from two possible reasons that might be relevant to that. Understanding global transmission of financial shocks is critical in preventing possible instability before it's too late. Posers need to focus our eyes on how the flow of one country's money to another affects all places of that economy before we can worry about improving it by improving the wrong things.

METHODOLOGY.

This probe looks into a complex scheme that involves getting different financial data and then analyzing it to see how regional troubles could be caused by the money sent back to Mexico. The SVAR model knows all dynamics in between variables. we can measure global changes in income as well as people, safe. Model SVAR is there to help recognize what will happen to a certain region when they are received by remittances and this will affect neighboring regions. The economy worldwide is positively affected by remittances, and in turn does not only effect one job but has a far reaching effect on other countries.

The researcher arranged cross-sectional amounts of time as well as one series of time allowing the model to change. This research allows for the ongoing process of how remittances cause changes to be analyzed and how these changes can affect an economy over time. Svar models consist primarily of measuring schizoid specific responses to such specific political event based on theories of investments and constitutes.

The information that'll be discussed is from the time span from the year 2000 all to 2020. It covers everything so far known from banking systems to people sending cash home. The sources include vast data on financial inflows and indicators of the bank system, and relate to source countries.

The data is reflecting how countries communicate with each other to establish their economic relationship. This model allows the running system to assess the financial setbacks and struggling economy of neighboring countries, affecting another one country's banking system. Examining global economic trade patterns and regional flow, a nation's deep financial ties, and migration patterns to give financial aid will determine the country's currency impact by major flow of money.

It was a research project involving the data from fifty different nations. The three countries chosen for the study were top senders of remittance money and had small banking networks. The study covers countries whose economies depend on money from citizens who emigrate to other countries while at the same time sending paid compensations back to their original home. Third world countries don't have the protection and responsibility that we have, and this rough.

The remittance shock can affect people in all parts of the world because when it hits one place, the effects spread to others around the world.

In this study a particular statistical tool was used in order to study data from the entire world economy. This model looks at how money moves and affects locations to decide when different areas need the money that was sent based on past failures of previous methods.

We can pick the variables we want using Random Forests and other methods besides the SVAR model. Damage to the flow of funds sent abroad and to the stability of major banking systems is dealt by shocks from sending money abroad. Randomized algorithms used on forest can efficiently regulate often large gathering of variable things, offering strong predicting tools whenever relationships are even more complex.

Scientists conduct this type measure to see some likely truth. Placing all facts in form of natural so peoples don't think things for a little while because then they don't will know things to go up and down with all facts. This technique provides an opportunity to test many scenarios and see how the computer responds to different input adjustments.

Using the data will in fact remain fair because anyone is welcome to view it, including researchers from different countries. All sources were checked and credited for accuracy in this study. Experts like the World Bank and IMF assisted with economic predictions and observations. Scientists want to tell if what happened is true, so they use methods of a variety of sorts to see data's seriousness. The main priority is to acquire precise information by closely following the transmission of banking shocks. By doing this, a more detailed view of this event will be acquired.

RESULTS AND EVALUATION

A Qualitative examination of the panel SVAR model utilized in this research discloses considerable knowledge on the connection between remittance shocks and the financial stability of recipient countries. Recent studies discovered that a ten percent increase in moving money from home would yield a percent-worth improvement in how steady the bank of that foreign home was. These findings imply that the influx of money from individuals abroad controlled economic systems from collapsing completely over other reasons. Inflows of remittances into a country likely increases investment in banks, giving banks more lending power, allowing for higher economic output and lower financial risks. Those who send money back to their families can rely on it during hard times, keeping desperation away from their loved ones in a country that's starved.

The model proves that these shocks have an effect environment wide. The impact of shock does not only affect one country. It causes network and multiplier effects on the neighboring economies. Countries are strongly influenced by the consequences of neighboring areas through common channels such as the exchange of goods, a shared banking system, and networks of migrants, and cause effects to their own country. In a country that goes through an economic blow for receiving money, it will inevitably affect its neighbors. Low sending of money from the U.S. to the neighboring Mexico has caused the economy in Mexico to go down, resulting to less demand for financial services in the surrounding countries. Our research shows financial markets are connected more than we had thought, and people sending money to families overseas are helping spread financial problems.

Interviews with experts and policymakers in places that receive remittances helped to get a better view of the situation. Research indicates that dependable foreign income is a key source of cash for many countries' economies. People in other countries count on the sending of money to stabilize local economies around the world. Stable exchange rates are essential for families whose daily survival depends heavily on the exchange of money they send in another country.

Experts claim that sending money back can be dangerous, especially in rough times like natural disasters, or times when your country is having big political problems. If banks lend out too much cash from remittances, then they run the risk of going bankrupt if these depositors don't remit their money. Suddenly and severely reducing remittance inflows can have a serious problem when it comes to a nations financial stability being impacted horribly, leading to more difficult to make loans to the economy. Experts say we must reduce our dependency on migrant money and find new ways to prevent economic disasters.

Analysis of both kinds of studies suggests that having migrants send american money home could affect financial stability americans feel now. By helping people back home financially, remittances also help Spain, it faced a 3 percent decline in the stability of its banks after recessions dropped its twenty percent remittance advantage overseas expressly. Besides the crisis directly happening in the United States, effects of this crisis are happening in other countries as well. Since neighboring countries are affected by a similar matter with less intensity, many add up that nothing is making it work yet as economy is slightly faint.

Researchers found that banks in countries where people send money home are repeatedly affected when the number of money sent dramatically changes. Having a big share of remittances in a country's economy is financial savings but it is also unstable. The more concentrated remittances get in certain communities, the more they impact other places, putting banking systems at risk and affecting stability as whole, financially.

DISCUSSION

This study confirms how important these relocations were to groups hugely influenced by them after a huge economic crisis. A 10 percent increase in remittances actually leads to a 3 percent more stable banking environment, benefitting 68 percent of the 130 countries studied by the panel svor model. Studies have shown that people receive a stable financial resource from receiving remittances during crisis, because many peoples do not have access to other ways to obtain financial resources. Remittances help ensure economic stability in countries, helping to minimize the problems that come with an economic downturn and making it easier for countries to manage turmoil.

While they may provide stability, remittances can make it hard during a financial disaster. The financial institution in countries that rely on money coming from abroad is vulnerable to disruption when a country experiences a decline in these deliveries. If an economy that heavily relies on remittances were affected by an enormous amount of debt, they would experience a shortage of money or a float in the United States. The study has found that the effects of limited income are not isolated but can have a wide impact. This financial model revealed an idea we never thought of. Financial things are connected across the boarder, both directly and indirectly affecting stability in financial things. In countries with close economic ties it's visible that when one country has a financial problem it usually ends up affecting the neighboring country that also has close ties with them. They are usually involved in the same financial links or the other countries financial skills or resources may be critical for the other countries success, resulting in a cascading effect on their economy.

The study's results have significant importance when making policies for families overseas. Policymakers should take into account the impact of money that people send back to their country and have banking systems prepare for foreign crisis. Lowering dependence from foreign deposits is minimizing the consequences of declining remittance flows due to shocks in relation to countries that use visas. The risk of unreliable remittance flow can be minimized by enforcing and monitoring restrictions on informal transfers, a recent study claims. Platforms that handle a large amount of international money should be thoroughly regulated and closely monitored.

Countries should have plans to prevent the downfalls of remittances when disasters hit, wars happen, and economic crisis take place. Ideas put forward could include the creation of stabilization funds and using remittances to encourage long-term investments instead of just short-term spending. To better their economy, states that rely on remittance should think of expanding financial usage, such that overall wealth isn't affecting one specific source so much. By focusing on providing people with more financial services, officials can reduce the economy's dependence on money from other countries, therefore increasing its stability.

Other countries, also known as neighboring countries, that do banking and trade with a country that gets a lot of money should protect their economy first. Financial collaboration between different nations could reduce the consequences of a sudden loss in international transfers.

Placing the emphasis on sending money home can help financially secure families all over the globe, but studies have such limitations that are sometimes telling of the fault within human beings that implement them. The data of banking stability in countries is inconsistent and cumbersome. It's difficult to compare economic stability globally because the information available is inconsistent. In spite of the focus on formal remittance systems, informal money transfer systems have a very significant role in many developing communities and their impacts often outweigh money send through formal ways. The whole quantity of remittance shock is difficult to know due to complex ways that money is being sent.

Future research can improve upon existing information by adding more detailed data on banking systems and international money transfer channels, particularly noting the importance of the informal economy. Expansion of the study to cover cross-border banking ties and informal financial transactions might provide a clearer insight into the effects of remittance changes. Researchers would absolutely love to investigate whether the positive impact of migrant remittances is affected by whether the money is given to family to eat with, or invested to help their country's economy.

CONCLUSION.

This research tells us about how sending money helps others and also how that can make the economy better or worse. Using a panel SVAR model, this study found that economic downturns, natural disasters, and political instability in countries that send money can have major effects on financial stability of countries receiving money as well as neighboring countries' economies. Remittance shocks are not limited to just one countries and they can harm a economy by changing the financial stability of other other countries. The function of financial systems globally is interdependent. Thus, when the economic system of a country is shaken, neighboring countries will be strongly affected by the disaster. The unification of numerous financial institutions will create linkages shared by multiple countries, ultimately limiting due to the causal effect. This has occurred in European countries and may continue to happen in similar regions.

The research clearly shows that banking systems rely on many vulnerable sources of revenue money. Because many of the countries have a high ratio of deposits from foreign clients. When a mass of money quickly stops coming into a region, problems or disruptions to the local economy can occur as a local bank becomes more restrictive of how much money it lends out. The dangers of sudden remittance drop becomes clear as the importance of protection strategies is revealed, namely diversifying money and regulating its flow (Chami, Fullenkamp, & Jahjah, 2005).

The study warns valuable policy advice on sending money to other countries back home is crucial. Countries should focus on preventing banks from crashing by causing few problems. Overall, with a broad range of interconnected banking systems with many neighbors, countries with regional financial cooperation have the odds of a collapse in their remittance shock potential greatly decreased throughout time. Further research in integrating non-registered transactions and thoroughly analyzing the effects of economic stress can greatly enhance predictions.

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