The Impact of Labor Migration and Remittances on Philippine Labor Force Participation

CJ Hines
ECON 191, Topics in Economics Research
Professor Benjamin Handel
University of California, Berkeley

May 11, 2023

Abstract

Does labor migration offset long-run economic development gains from remittances? Despite the steady growth of remittances, they do not as significantly impact long-run development in comparison to domestic income growth. This paper aims to understand if the export of labor through international migrant workers and the behavior of remittance-receiving households partially offset long-run economic growth and development from remittances. In this paper, I focus on the Philippines and Overseas Filipino Workers (OFWs) and utilize a shift-share instrument to address heterogeneity with the natural experiment of the 1997 Asian Financial Crisis exchange rate shocks. While I find that labor migration and remittances had a positive effect on the labor force participation rate in the long-run, I will continue improving my regression equation to reduce overall bias and control for other variables in my regression. The findings of further research on this topic can help in designing effective policies for labor migration and remittances that contribute to economic growth and development. Parts of data and analysis for this paper can be found at `https://github.com/mcjch/PHlaborandremittances`.

1 Introduction

Remittances, defined as income sent by international migrant workers home to their origin country, are able to increase household spending, investment in education, and higher savings in origin countries (Yang D., 2008). For developing countries in 2022, remittances were the largest source of external finance above foreign direct investment and official development aid (World Economic Forum, 2023; World Bank, 2022). As such, it's important to understand how remittances relate to the economic development of origin countries.

Despite their magnitude, international income gains through remittances do not significantly impact long-run development in comparison to domestic income gains (Bayangos and Jansen, 2011; Yang D., 2015). In order to better understand and design migration policies, this paper will focus on the Philippines and explore how the export of labor through international migrant workers partially offsets long-run economic growth and development from remittances. Labor migration can affect economic growth in multiple ways, such as decreasing the labor supply both overall and heavily in specific sectors and de-incentivizing domestic labor participation in origin countries due to remittances. In this paper, I will attempt to understand the effects of labor migration and remittances on long-run economic growth and development through an analysis of labor force participation rates using household survey data.

Other explanations for this perceived lack of impact on economic growth such as changes in how statistics record remittances and a lack of sufficient data will not be discussed in this paper (Clemens and Mckenzie, 2014). One difficulty with examining remittances and economic growth is heterogeneity (Clemens and Mckenzie, 2014). I address this by utilizing a shift-share method, following Khanna et al. (2021) and the natural experiment of Philippine remittances in the 1997 Asian Financial Crisis exogenous exchange rate shocks.

The Philippines is one of the largest labor-exporting countries in the world, with millions of Filipinos working overseas. Overseas Filipino Workers, or OFWS, are Filipino migrant workers with Filipino citizenship working temporarily in a foreign country. This migration system started in the 20th century and was formally established under martial law to address the Philippines' need for foreign exchange by exporting overseas labor. In 2022, over 30 billion USD in remittances were sent to the Philippines from these international migrant workers (World Bank, 2022). Workers in the Philippine labor force can decide to work domestically in the origin country or internationally as migrant workers; this is a simplified model for the survey data. This decision can be influenced by past education investment, job availability,

wages, and OFWs in the household. Remittances can increase household income in origin countries for education investment, entrepreneurship opportunities, and savings. Others argue remittances can create a dependency on migrant income and labor in foreign countries, discouraging workers from seeking employment opportunities in the origin country. While labor migration can provide opportunities for higher income and work of different skill levels, labor migration can also result in the loss of human capital and diverse skills.

2 Literature Review

There is an evolving body of literature surrounding remittances, labor migration, and economic growth. Bayangos and Jansen (2017) examine the impact of remittances on the competitiveness of the Philippine economy. Their findings suggest that the effects of remittances on economic growth are complex and depend on industry and context. The method they utilize to address the endogeneity of remittances on GDP was less robust than others for long-term growth analysis.

Yang (2008) exploits a successful natural experiment of the 1997 Asian Financial Crisis to observe the effects of remittances exogenously. Yang finds that households increase their investment in education and health and did not significantly increase their investment in land or housing when they received remittances.

Khanna et al. (2021) study the long-term effects of remittances and international migration on economic development in the Philippines utilizing the endogeneity findings from Yang (2008). In this paper, I work to extend this research to answer additional questions surrounding the long-term effects of labor migration and remittances. They use a unique dataset that combines census and survey data to analyze the impact of migration-induced income shocks on local economic growth, human capital accumulation, and poverty reduction. They find that migration-induced income shocks have had significant positive effects on local economic development in the Philippines and that remittances sent by international migrants have increased local investment and entrepreneurship, leading to long-term economic growth. Furthermore, they find that international migration has had positive spillover effects on human capital accumulation in the Philippines since OFWs are more likely to invest in their children's education, leading to higher educational attainment levels among the following generation. This, in turn, increases the skill level of the workforce and contributes to higher productivity and economic growth.

Clemens and McKenzie (2014) explain and explore why remittances do not appear to have a significant impact on economic growth in developing countries. They argue that the lack of a clear relationship between remittances and economic growth is due

to several factors, one of which, is labor losses offsetting remittance income gains, I work to further study this in this paper. They state that remittances are often used for consumption rather than investment and that they may be subject to reverse causality, with economic growth leading to increased remittances rather than the other way around.

Ducanes and Abella (2010) investigate the impact of Overseas Filipino workers (OFWs) on household employment decisions and find that the presence of OFWs in the household and therefore remittance recipients in the household did not significantly affect labor force participation. They find that the presence of an OFW in the household increases the likelihood that other household members will engage in non-market activities, such as studying or caring for children. This suggests that remittances may have important non-economic benefits, such as enabling household members to pursue education or care for family members.

The OECD (2016) report explores the interrelationships between public policies, migration, and development in the Philippines. The report identifies several policy areas where improvements could be made to maximize the positive impact of migration and remittances on economic development, including improving the management of labor migration and enhancing the development impact of remittances.

Ali et al. (2022) investigate the relationship between foreign capital flows and human development in developing countries, focusing on the role of institutional quality. Focusing on panel data from 80 countries, they find that institutional quality plays a crucial role in mediating the effects of foreign capital flows on development. They argue that foreign capital flows can have a positive effect on development only in countries with a high level of institutional quality. In contrast, the inflow of foreign capital in countries with poor institutional quality can exacerbate economic inequality, corruption, and other negative outcomes.

Murakami et al. (2015) analyze the impact of migration and remittances on labor supply in Tajikistan. They find that households with migrant members have a higher labor supply, suggesting that remittances may enable households to invest in productive activities that generate additional income.

Dustmann and Goerlach (2015) examine the economic impact of temporary migration. They argue that temporary migration can have both positive and negative effects on the economy of both sending and receiving countries. While temporary migration can lead to a transfer of skills and knowledge and increased remittances, it can also lead to labor market distortions and a drain on the origin country's human capital.

Overall, the literature suggests that the impact of remittances, labor migration, and economic development is complex. While there have been numerous studies on

the various effects of remittances and labor migration on economic growth, development, and labor supply, they address endogeneity in different ways and focus on different outcomes. There also exists an entire literature on remittances, labor supply, and economic development in other countries that are not discussed in depth in this paper. My paper will attempt to address contradicting conclusions in this field on the positive or negative effects of remittances and labor migration by focusing on labor supply and labor force participation. I focus on the Philippines due to the robustness of past research and analysis on OFW households and remittances as well as the unique ability to exploit an endogenous variable in this research.

The rest of the paper is organized as follows: Sections 3 and 4 describe the data employed and experiment design in the analysis; Section 5 presents the analysis and discusses results; Section 6 discusses this paper's limitations and areas of growth; Section 7 concludes the paper.

3 Data

I utilize data from surveys by the Philippine Statistics Authority (PSA), specifically from two of their major surveys: the Survey on Overseas Filipinos (SOF) and the Family Income and Expenditure Survey (FIES). The SOF is a survey that collects information on overseas Filipino workers (OFWs), their employment status, occupation, income, and remittances. The survey is conducted every three years and covers both land-based and sea-based OFWs. For this study, I use SOF metadata from 1993-2002 inclusive. The SOF data contains my main variables for shift-share construction including remittances, origin province, and destination country. In Table 2, this data is aggregated with exchange rate shocks.

The FIES is a nationally representative survey that collects data on household income and expenditure, including income from various sources such as employment, entrepreneurship, and remittances. This survey also collects data on household statistics and education attainment and expenditure. The survey is conducted every three years and covers both urban and rural areas of the country. For this study, I use the FIES data from 1988, 1991, 1994, 1997, 2000, and 2009. However, the dataset collected includes 1988, 1991, 1994, 1997, 2000, 2003, 2006, 2009, and 2015. I was unable to utilize all of the data for the regression due to inconsistencies in data collection from year to year as well as storage limitations. Cleaning and aggregating all of the metadata will be an area of focus in future iterations of this paper. Table 1 presents the descriptive statistics of the FIES data and my main variables. Figures 1-6 also summarize the relevant initial variables from the 1994, 1997, and 2000 FIES data.

Table 1: Summary Statistics - FIES Data

Province-level p	1994 (Pre-shock)			2000 (Post-shock)		
	Mean	Max	Min	Mean	Max	Min
Labor Supply						
Household Members (HHM)	1691	7358	254	2474	7423	397
Employed HHM	324	2570	75	833	2559	172
Income*						
Domestic Household Income	13,940	191,186	527	31,575	226,755	3.664
Migrant Household Income	2,328	22,847	6.4	5,928	42,146	78.7
Total Income and Expenditures*						
Total Household Income	30,854	381,031	2,219	68,858	457,222	11,076
Total Household Expenditures	24,775	287,379	1,792	55,672	360,219	9,011

*in thousands of Philippine Pesos

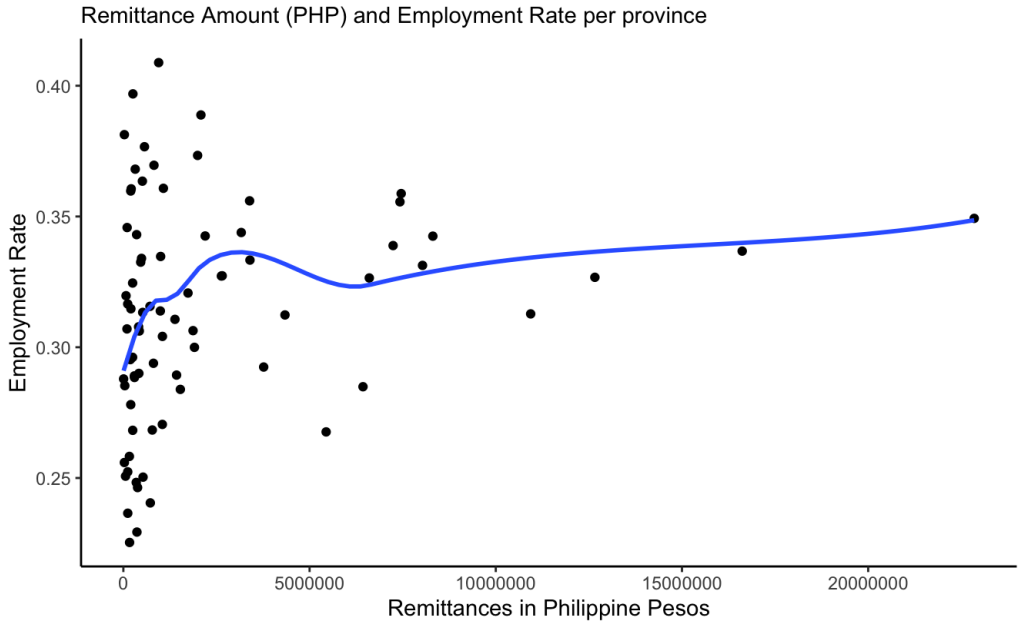

Figure 1: 1994 Remittance Amount (in PHP) and Employment Rate

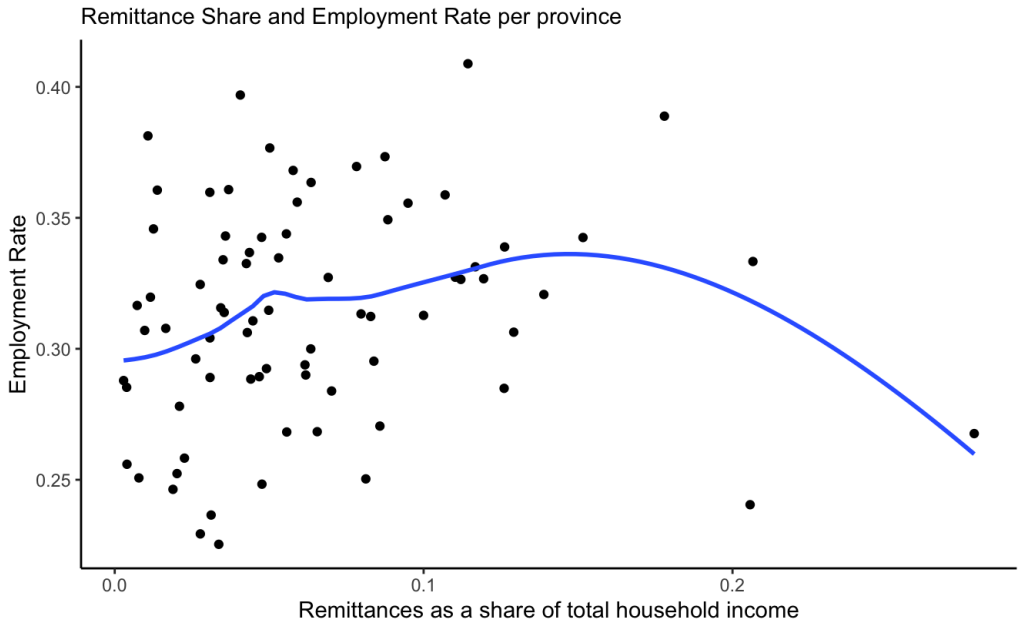

Figure 2: 1994 Remittances (as a share of total household income) and Employment Rate

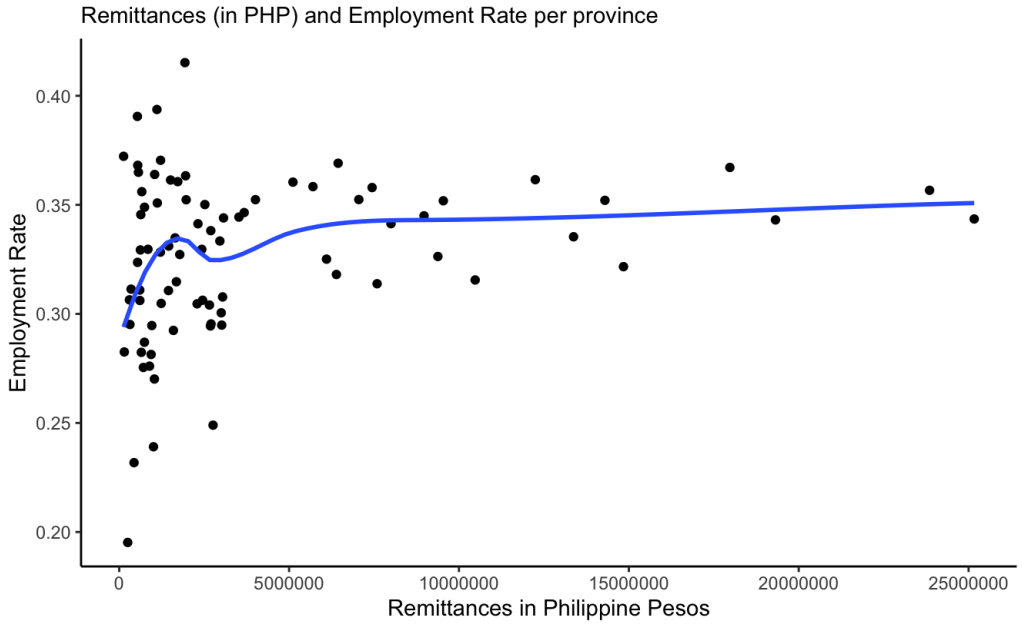

Figure 3: 1997 Remittance Amount (in PHP) and Employment Rate

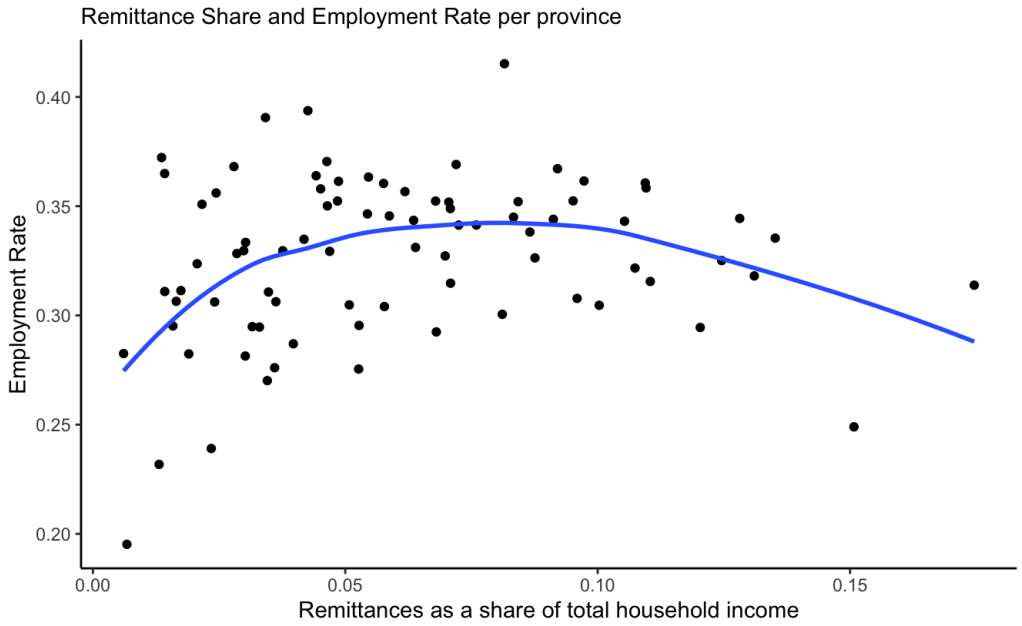

Figure 4: 1997 Remittances (as a share of total household income) and Employment Rate

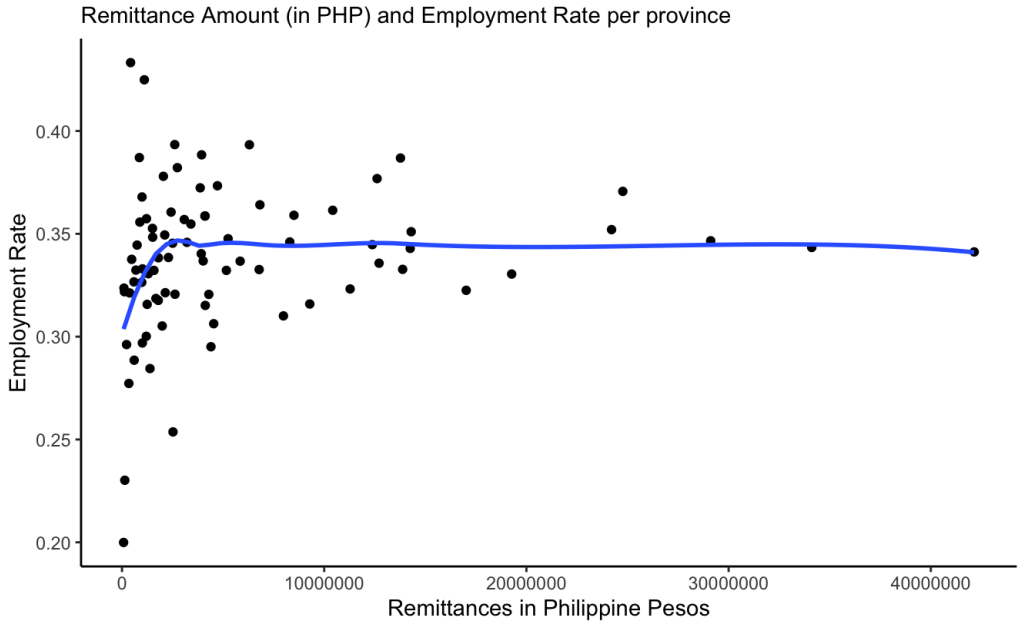

Figure 5: 2000 Remittance Amount (in PHP) and Employment Rate

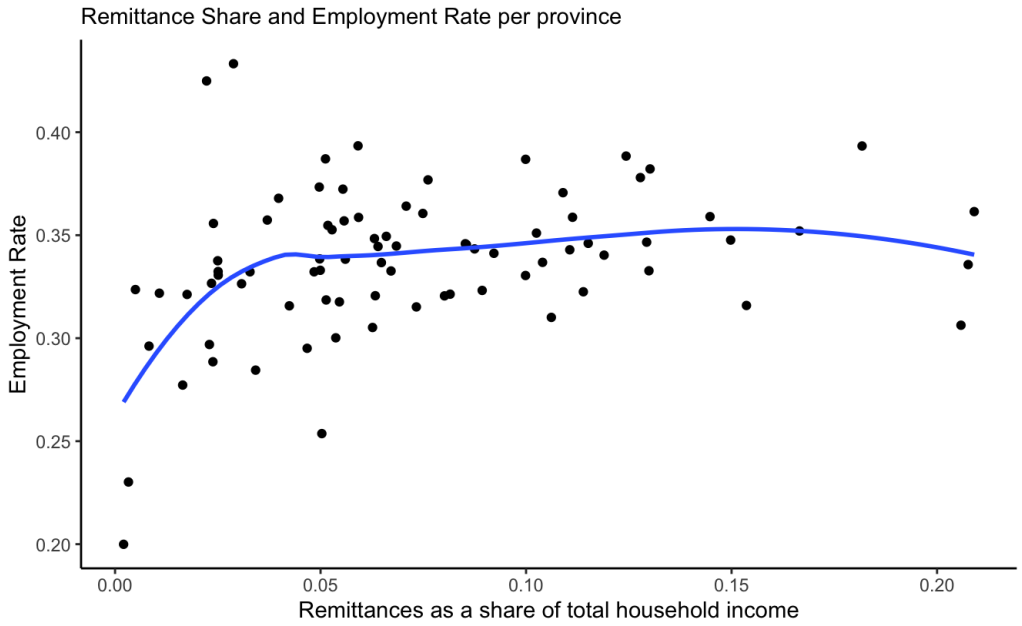

Figure 6: 2000 Remittances (as a share of total household income) and Employment Rate

Exchange Rate Shocks from the 1997 Asian Financial Crisis are created using exchange rate data from Bloomberg L.P. between the Philippine Peso (PHP) and the currency at the destination country d between 1997-1998 and 1996-1997.

Table 2: 1997 Destination Countries and Exchange Rate Shocks

Country	*Remittance Amount (in thousands of Pesos)*	*Number of Migrant Workers*	*Exchange Rate Shocks (ΔER_d)*
Australia	302.5	13	0.240
Bahrain	175.7	14	0.520
Brunei	1,126	37	0.300
Canada	1,012.7	37	0.420
Greece	2,013.98	65	0.300
Hong Kong	5,489.58	249	0.520
Italy	2,439.93	54	0.380
Kuwait	1,392.44	63	0.500
Japan	7,891.88	184	0.320
Malaysia	2,272.69	85	−0.010
Norway	1,014.12	27	0.350
Qatar	479.12	20	0.520
Saudi Arabia	21,398.47	594	0.520
South Korea	2,154.89	42	−0.040
Singapore	4,081.79	108	0.290
Taiwan	5,016.98	147	0.260
UAE	1,885.5	41	0.520
UK	378	14	0.550
USA	6,647.78	131	0.520

I join the FIES and SOF data on province p and country d. To ensure the representativeness of the data, I limit the SOF sample to remittance-receiving households

and exclude households with missing data on key variables such as income, province, and country. It's important to note that survey data is vulnerable to bias which could affect how representative the results of the study are.

4 Experiment Design

The intuition behind the empirical approach in this paper is to study how labor migration and remittances effect labor force participation in the Philippines. In regards to economic growth, labor migration decreases the origin country's labor supply and increases household income through remittances, but the effects on the labor force participation rate in remittance-receiving Filipino households remain ambiguous. To derive causal estimates, I adopt an approach similar to that of Khanna et al. (2021) and leverage the 1997 Asian financial crisis exchange rate shocks to create a shift-share variable that captures the changes in provincial migrant income, isolating the exogenous variation.

The exogenous assumption in Boryusak et al. (2021) assumes that the exposure of a region to a particular policy is not influenced by unobservable factors that also affect the outcome of interest. This assumption is important in the context of using shift-share variables to estimate the causal effect of a policy on labor market outcomes. If the exposure to the policy is endogenous and influenced by unobservable factors, then the Bartik instrument may not be a valid IV and the estimated causal effect may be biased. However, in Boryusak et al. (2021), they use a variety of empirical methods to test the exogenous assumption, including comparing the results of different IV specifications and performing a falsification test. They find strong evidence in support of the exogenous assumption in their context.

My shift-share equation is the population of migrant workers from the origin province p at the destination country d, $pop_{p,d}$, divided by the total population of p, pop_p, multiplied by remittances sent from p to d and the short-run change in d's exchange rate, ΔER_d, employing the exchange rate shocks, and summed over all destination countries:

$$ShiftShare_p = \sum_d \frac{Remittance_{p,d} \cdot pop_{p,d} \cdot \Delta ER_d}{pop_p}$$

I recreate the exchange rate shock statistics and employ the exchange rate shock methodology from Khanna et al. (2021) in the "shift" construction of my shift-share instrument. ΔER_d is the fractional change between July 1996 and September 1998.

$$\Delta ER_d = \frac{ER_{d,1998} - ER_{d,1996}}{ER_{d,1996}}$$

I define the employment rate $emp^m_{p,t}$ of the domestic population in province p at time t with a binary indicator for remittance recipients ($m_{p,t} = 1$ if yes; $m_{p,t} = 0$ means domestic income only). The employment rate variable $emp_{p,t}$ is the share of all employed and employment-seeking household members in province p at time t compared to summed household size in province p.

$$emp^m_{p,t} = (1 - m_{p,t})emp^0_{p,t} + m_{p,t}emp^1_{p,t}$$

By substitution, I derive the following regression model and estimate causal effects using the shift-share method:

$$emp_{p,t} = \alpha_{p,t} + \beta(ShiftShare_p \cdot post97) + \delta \cdot X_{p,t} + \epsilon_{p,t}$$

$emp_{p,t}$ is the outcome variable, the labor force participation rate, for province p in year t. $\alpha_{p,t}$ is a constant term that captures the average labor force participation rate for group p at time t after controlling for other factors in the equation. β represents the effect of a shift-share variable for province p. $post97$ is a binary indicator for the post-shock period. The shift-share variable captures changes in the labor force participation rate for each unit migrant income per capita shock in province p. It's multiplied by an indicator variable for the post-1997 time period. This term allows for the analysis of exogenous changes in the labor force participation rate over time and the comparison of the changes over time t and over varying province-destination pairs p, t. δ represents the effect of a set of control variables $X_{p,t}$. These control variables also include the shift and share portions of the shift-share variable, pre-shock migrant income and exchange rate shocks. $\epsilon_{p,t}$ represents the error term, which captures the effects of unobserved factors that may impact the labor force participation rate for group p at time t but are not included in the model.

5 Analysis and Results

I conducted a regression analysis using a merged dataset of SOF data, FIES data, and the constructed shift-share and shock variables. To create the dataset, I merged SOF microdata from 1993-2000 with FIES data from 1991-2000, aggregated triennially.

I estimated the impact of the shift-share variable on labor force participation using the coefficient β. To construct the shift-share variable, denoted as $ShiftShare_p$, I used SOF survey microdata and exchange rate shock data.

Table 3: Regression result 1994 - Impact of remittances on labor force participation

	1994
	β
$ShiftShare_p \cdot post97$	0.000***
	(0.000)
$X_{p,t}$	0.051***
	(0.0035)
Constant	0.341***
	(0.001)
Observations	82
R^2	0.007
Adjusted R^2	0.006
Residual Std. Error	0.036 (df = 82)
F Statistic	9.198*** (df = 3; 82)
Note:	*p<0.1; **p<0.05; ***p<0.01

The regression results are presented in Tables 3, 4, and 5 for 1994, 1997, and 2000 respectively. In each table, the dependent variable is the labor force participation rate, and the independent variables include a shift-share interaction term ($ShiftShare_p \cdot post97$), a control vector X_p, t, and a constant term. The coefficient estimate for ($ShiftShare_p \cdot post97$) is the primary coefficient of interest, as it reflects the impact of remittances on labor force participation. The standard errors of the estimates are shown in parentheses.

In Table 3, the coefficient for $ShiftShare_p \cdot post97$ is 0.000 and is technically statistically significant at the 1% level (indicated by ***). This suggests that the effect of remittances on labor force participation varies depending on the time period and that there was a significant change in this effect after 1997. This makes sense because of the post-97 binary indicator. In future iterations of this paper, though, I would control for the shift and share values that multiply to construct the shift-share variable in order to run regressions on years in the pre-shock period. These values would be in coefficients other than β. The coefficient for $X_{p,t}$ is 0.051 and

Table 4: Regression result 1997 - Impact of remittances on labor force participation

	1997
	β
$ShiftShare_p \cdot post97$	1.961^{***}
	(0.07)
$X_{p,t}$	-0.043^{***}
	(0.004)
Constant	0.341^{***}
	(0.001)
Observations	82
R^2	0.033
Adjusted R^2	0.032
Residual Std. Error	0.030 (df = 82)
F Statistic	68.690^{***} (df = 3; 82)
Note:	*p<0.1; **p<0.05; ***p<0.01

Table 5: Regression result 2000 - Impact of remittances on labor force participation

	2000
	β
$ShiftShare_p \cdot post97$	1.883***
	(0.07)
$X_{p,t}$	0.114***
	(0.010)
Constant	0.334***
	(0.001)
Observations	82
R^2	0.034
Adjusted R^2	0.034
Residual Std. Error	0.028(df = 82)
F Statistic	48.333*** (df = 3; 82)
Note:	*p<0.1; **p<0.05; ***p<0.01

is statistically significant at the 1% level. This suggests that these control variables are positively correlated with labor force participation. The constant coefficient is 0.341 and is statistically significant at the 1% level. This suggests that even when all other variables in the analysis are held constant, there is a positive relationship between remittances and labor force participation. The R-squared is 0.007 and this indicates that the model explains only a small proportion of the variation in labor force participation. The F-statistic is 9.198 and indicates that the model as a whole is statistically significant at the 1% level.

In Table 4, the coefficient for $ShiftShare_p \cdot post97$ is 1.961 and is statistically significant at the 1% level (indicated by ***) and a standard error of 0.07. This indicates that there is a positive effect of remittances on labor force participation in this time period and that there was a significant change in this effect after 1997. The coefficient for $X_{p,t}$ is -0.043 and is statistically significant at the 1% level. This suggests that the control variables included in the analysis have a negative impact on labor force participation. The constant coefficient is 0.341 and is statistically significant at the 1% level. This suggests that even when all other variables in the analysis are held constant, there is a positive relationship between remittances and labor force participation. Similar to the 1994 results, the R-squared is 0.033 and indicates that the model explains only a small proportion of the variation in labor force participation. The F-statistic is 68.690 and also indicates that the model is statistically significant at the 1% level.

In Table 5, the coefficient for $ShiftShare_p \cdot post97$ is 1.883 and is statistically significant at the 1% level (indicated by ***). Similar to the 1997 results, this implies that there is a positive effect of remittances on labor force participation in this time period. The coefficient for $X_{p,t}$ is 0.114 and is statistically significant at the 1% level. This suggests that the control variables have a positive impact on labor force participation. The constant coefficient is 0.334 and is statistically significant at the 1% level. This suggests that even when all other variables in the analysis are held constant, there is a positive relationship between remittances and labor force participation. The R-squared is 0.034 and indicates that the model explains only a small proportion of the variation in the labor force participation. The F-statistic is 48.333 and indicates that the model is statistically significant at the 1% level.

Overall, these results suggest that remittances have a positive impact on labor force participation and that this effect varies depending on the time period. Theory and past literature suggest that remittances provide an income source that can reduce the need for family members to work. Therefore, it is expected that remittances will have a negative impact on labor force participation rates. However, my regression results suggest that this negative relationship may not always hold. In both the

1997 and 2000 regressions, the coefficient on the remittances variable is positive and statistically significant, indicating that remittances can be associated with higher levels of labor force participation. This result is surprising and goes against the theory that remittances should have a negative impact on labor force participation.

There are several potential explanations for this result. One possibility is that remittances are being used to invest in education and skills training, which could in turn increase labor force participation rates. This explanation is consistent with research that has found that households that receive remittances are more likely to invest in education. Another possible explanation is that remittances enable household members to engage in self-employment, which could also increase labor force participation rates. This explanation is consistent with research that has found that remittances can be used to finance small businesses. In addition, the relationship between remittances and labor force participation may also depend on the gender of the recipient. Research has shown that women and men are likely to allocate remittances in different ways, so the impact of remittances on labor force participation rates may be explained through gender.

My finding that remittances are positively associated with labor force participation rates goes against the prevailing theory that remittances should have a negative impact on labor force participation. However, this result is not necessarily surprising given the many ways in which remittances can affect the economy of the origin country. More research is needed to understand the mechanisms behind this relationship and to explore how it varies in the context of long-run economic growth. These findings have important policy implications for countries that rely heavily on migration and remittances.

6 Limitations

It is important to acknowledge the limitations of this research, including data access issues with the Overseas Worker Welfare Administration (OWWA), inconsistent data collection methods from year to year from the Philippine Statistics Authority (PSA), and a lack of custom falsity tests and robustness checks. I will also discuss some suggestions for future iterations of this research that may help address these limitations.

Following previous research, I intended on utilizing data from the OWWA to gather individual worker data which would have improved this study by more accurately representing migrant worker data. However, since the OWWA data contains sensitive information, it is not available for public access and as a result the analysis of the study is limited to PSA data which could limit the generalizability of the

results.

In regards to inconsistent data collection methods, I collected data from three different agencies from the PSA over a span of roughly thirty years but was unable to use them all due to inconsistencies in the information recorded and requested from year to year. The data used in this paper also required additional cleaning, and due to inconsistencies, I was unable to impute values randomly. This inconsistency could lead to inaccuracies in the analysis and was a persistent issue throughout the study.

Another PSA data limitation of this research is the inconsistent data reports. Most studies on Philippine OFWs and remittances struggle with the same issue of survey completion. According to the World Bank, official reports of remittances are very likely underestimates which will always be a footnote in this type of analysis.

The lack of falsity tests is a significant limitation of this study. In future iterations of this research, falsity tests have to be used to test the validity of the results from the regression. The absence of falsity tests means that it's possible that my findings are due to chance or another factor that was not accounted for. Therefore, there is no way to determine if the results are statistically significant or not. Other studies describe extensive methods for falsity tests that would be pertinent to apply in future iterations of this paper, especially in regard to the shift-share approach. Robustness checks were also not conducted in this study which tests the sensitivity of the results to changes in the specification of the model or the inclusion or exclusion of certain variables. The absence of robustness checks means that the results could be driven by a specific set of assumptions or specifications. Without robustness checks, my results are less reliable and prone to bias.

This empirical analysis is complicated and should undergo additional robustness checks and falsification tests. In the research of Khanna et al. (2021) that I'm building on, their empirical analysis accounts for specifications that interact migrant income with the proportion of workers employed in manufacturing to better examine economic development through whether remittances are more likely to lead to industrialization. They also introduced a lagged dependent variable to examine the potential persistence of the effects of migrant income on economic development.

Despite these limitations, there are several ways that future research can address these issues. Future research should consider working with government agencies early in the study to gain access to more representative data. This may involve collaborating with agencies to improve data collection methods or working with them to develop new data collection methods. Inconsistent data collection methods can be addressed by using standardized data collection methods.

This study had several limitations, but these limitations can be addressed in future research by conducting falsity tests and robustness checks, working with gov-

ernment agencies to gain access to more representative data, and using standardized data collection methods. By addressing these limitations, future research can build upon the findings of this study and provide a more comprehensive understanding of the relationship between labor migration, remittances, and labor force participation.

7 Conclusion

In this paper, I investigated the effects of labor migration and remittances on the household labor force participation rate in the Philippines. To better understand the effects of labor migration and remittances on long-run economic growth and development, this paper has utilized household survey data on income and expenditures from overseas workers and members of their households. My regression results and exploratory data analysis suggest that both migration rate and remittance inflow have significant positive effects on the labor force participation rate, even after controlling for various socio-economic factors.

This research and future iterations can have implications for migration policies and economic development strategies in the Philippines and other developing countries. Policymakers can consider the positive effects of migration and remittances on labor force participation rates when formulating economic policies. Policies that promote and support migration and remittance inflows do not always negatively affect the labor supply through labor force participation rates. Policymakers may be able to better understand and consider the potential trade-offs between labor supply effects, labor migration, and remittances for long-term economic growth and development.

Further research must be pursued by myself and others to better understand the long-term effects of migration and remittances on labor force participation rates, as well as explore the effects of other factors such as cultural values on labor force participation rates in different contexts.

Despite statistically significant findings, there are several limitations to this study. My study lacks falsity tests and robustness checks, which affects the validity of my results. In future research, it would be important to conduct sensitivity analyses and explore alternative specifications to determine the robustness of my findings. Furthermore, data issues limited my ability to fully explore the relationship between remittances and labor force participation. In the future, it would be beneficial to work with government agencies to improve data collection methods and access to data, which would enable more comprehensive analyses of the impact of remittances on economic development.

Overall, this paper contributes to the existing literature on the relationship between remittances, labor migration, and economic development in the Philippines. My analysis and results suggest that the positive effects of remittances on household income and consumption may offset some of the negative impacts of labor migration on labor force participation. However, there is a need for further research to better understand the complex relationship between these variables and their effects on long-term economic growth and development. Hopefully, this paper will serve as a starting point for future studies on the topic, and policymakers can explore this area of resaerch and use my findings to better understand policies for economic growth and development in the Philippines.

References

[1] Ali, S., Jehan, Z., & Sherbaz, S. (2022). Foreign Capital flows and human development in developing countries: Does institutional quality matter? *Zagreb International Review of Economics and Business*, 25(1), 1-14.

[2] Bayangos, V., & Jansen, K. (2017). Remittances and Competitiveness: The Case of the Philippines. *Journal of International Development*, 29(5), 555-576.

[3] Borsuyak, K., Hull, P., Jaravel, X. (2022). Quasi-Experimental Shift-Share Research Designs. *Review of Economic Studies*, 89(1), 181-213.

[4] Clemens, M. A., & McKenzie, D. (2014). Why don't remittances appear to affect growth?. *Journal of Economic Perspectives*, 28(4), 205-226.

[5] Ducanes, G., & Abella, M. (2010). Overseas Filipino Workers and their Impact on Household Employment Decisions. *Asian and Pacific Migration Journal*, 19(2), 169-196.

[6] Dustmann, C., & Goerlach, J.-S. (2015). The economics of temporary migrations. *Journal of Economic Literature*, 53(1), 98-136.

[7] Grigoli, F., Koczan, Z., Topalova, P. (2020). A Cohort-Based Analysis of Labor Force Participation for Advanced Economies. *IMF Working Papers*, 20(92). https://doi.org/10.5089/9781513546267.001

[8] Huay, C. S., Winterton, J., Bani, Y., & Matemilola, B. T. (2019). Do remittances promote human development? empirical evidence from developing countries. *International Journal of Social Economics*.

[9] Khanna, G., Murathanoglu, E., Theoharides, C., & Yang, D. (2021). Abundance from Abroad: Migrant Income and Long-Run Economic Development. *The Review of Economic Studies*, 88(3), 1163-1196.

[10] Murakami, Enerelt, Eiji Yamada, and Erica Paula Sioson. The impact of migration and remittances on labor supply in Tajikistan. *Journal of Development Studies* 51, no. 7 (2015): 926-940.

[11] Murtazashvili, I., Wooldridge, J. M. (2008). A control function approach to estimating switching regression models with endogenous explanatory variables and endogenous switching. *Journal of Econometrics*, 146(1), 117-128.

[12] OECD. (2016). Interrelations between Public Policies, Migration and Development in the Philippines. OECD Development Pathways. *OECD Publishing.*

[13] World Bank, T. (2022). Trends in Remittance Flows. *Migration and Development Brief, 37.*

[14] Yang D. (2008). International Migration, Remittances and Household Investment: Evidence from Philippine Migrants' Exchange Rate Shocks. *The Economic Journal.*