

Research Statement

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I am a Ph.D. student in Economics at the George Washington University. My research interests lie at the intersection of Labor, Development, and Macroeconomics. The theme of my research is to use household survey data or firm-level data to study for the effect of labor market policies or economic shock on labor market outcomes. I combine both economic theory and empirical analysis with micro-econometrics method to address policy-related questions. Through the course of my doctoral study, I have cultivated a deep interest into two sub-streams of research. In the first stream of research, I combine micro-level data and a search-theoretic model to investigate the effect of minimum wage regulation on the labor market structure and productivity dispersion among firms on unemployment ratio and quality of jobs. The second stream pertains to welfare economics, where I examine the effect of labor market regulations on intra-house decision-making and poverty. Post-PhD, I intend to pursue my work on research in the same area, alongside exploring and expanding the body of work on other related areas. In this research statement, I describe my ongoing work, future projects, and how they situate within my broader research agendas. The first section discusses my work on the search theoretic model. The second section describes my research on household welfare.

(1) Search-Theoretic Model with Micro-evidence

In the first chapter of my dissertation, “**Minimum Wage, Informality, and Non-Compliance: a Case Study for Indonesia,**” I develop an equilibrium wage-posting model that provides a coherent theoretical prediction of the effect of minimum wage on the labor market. Though the literature on minimum wage is vast, there is a lack of consensus on the extent to which minimum-wage influences the overall labor market structure in developing countries. Further, existing research focuses on its effect on one or other aspects of the labor market but often fails to show its overall effect on the labor market. To gain a robust understanding of the minimum wage policy on the structure of labor markets, we need a coherent framework that embodies all mechanisms through which minimum wage can

affect labor market outcomes. I extensively exploit Indonesian Family Life Survey (IFLS) and Industry Survey (IS) to first document labor market features, for both the informal sector and formal sector, to better understand the mechanism. Empirical results show that the Indonesian labor market shares common features of the labor market in developing countries, such as (i) monopsonistic competition among firms, (ii) imperfect governmental monitoring and high non-compliance ratio, and (iii) heterogeneity in income and ability among informal sector laborers. Next, I build an equilibrium wage-posting model based on these empirical findings. The model demonstrates that an increase in minimum wage can (i) increase (or decrease) in the formal sector economic activity, (ii) shift the entire wage distribution towards right, both for sub-minimum wages and legal wages (iii) reduce economic rents for employers, and (iv) increase the number of formal sector firms that do not comply with the minimum wage regulation. Using regional minimum wages in Indonesia that changed annually during 2000-2014 and a sample of working individuals and manufacturing plants, we implement a method that exploits a variation in the minimum wage between geographically proximate districts. By focusing on geographically proximate districts that have similar local market conditions but are subject to different minimum wage levels, we circumvent the potential endogeneity concern that minimum wage changes are correlated with changes in local economic conditions. Our empirical results validate the prediction of the model.

A related paper that studies the search behavior and wage dispersion is the third chapter of my thesis, "**Productivity dispersion and the rise of unemployment**" (with **Hyung Joon Chung, work-in-progress**). With the increase in technological innovation and globalization, productivity-gap across firms has widened. This paper investigates the effect of such productivity dispersion on job quality across firms and unemployment. Using Youth Panel data (2007-2017), Korean Labor and Income Panel Study (1998-2016), and Wage Structure Survey (1980-2016), we document the increasing wage gaps between workers in large firms vis-a-vis small and medium-sized companies. Further, utilizing a marginal treatment approach, where treatment is assigned based on a worker's employment status in a large firm, we show the evidence of labor market segmentation between large and small firms. We propose further work to extend the existing wage-posting model by assuming that firms offer two kinds of jobs, a full-time job and a temporary work. With the increased productivity gap, between-firm competition reduces, and productive firms tend to offer more full-time job vacancies, whereas less productive firms tend to offer short-term vacancies. Also, we propose to endogenize job arrival rates to capture the individuals' incentive to delay into the labor market and keep searching for job opportunities in more productive firms.

My work on search friction and wage dispersion, while primarily lying under the ambit of

Labor Economics, also touches upon certain themes in Industrial Organization. Currently, I am working on a project, **“The Effect of Smartphone Penetration on Gasoline Price Dispersion in South Korea” (with Eun-Pyo Hong)**, which examines search behavior among consumers and price dispersion of gasoline. Contrary to the prediction of the conventional model, our empirical analysis finds that reduced cost of earning information on gasoline price, owing to the widespread use of smartphones, increased price dispersion. Our empirical results are robust to different regression specifications and various measures of price dispersion commonly used in the literature. As a next step, we plan to develop a theoretic model to understand this empirical observation better.

(2) Welfare Economics-Household Decision Making and Poverty

The second theme of my research is related to welfare economics. Under this theme, I explored the topics of household bargaining and poverty. Most of my works in this category are empirical: I conduct an empirical analysis to test for the validity of the existing models. In the paper, **"Minimum Wage and Women’s Decision Making Power within Households: a case study in Indonesia" (with Benjamin Williams; published in Economic Development and Cultural Change; forthcoming)**, we study the heterogeneous effect of minimum wage on labor market outcomes across gender and its subsequent effect on household decision making. Based on the household bargaining model, economic shocks can generate labor market opportunities that favor one gender over the other and consequently influence intra-household decision-making. We test this hypothesis empirically in the Indonesian context. We exploit province-specific minimum wage increases in Indonesia between 2000-2014 and test for difference in labor-market outcomes between geographically proximate districts (located near the border) that are subject to distinct province-specific minimum wage regulations. We find that minimum wage laws in Indonesia improve labor market conditions for husbands compared to wives as the majority of formal sector workers are males where minimum wage binds. Consistent with the household bargaining model, we find that the minimum wage reduces the bargaining power of women in the household.

Relatedly, in another ongoing project, **"Heterogeneity in Household Decision Making: Evidence from Indonesia" (with Benjamin Williams)**, we investigate heterogeneity in household decision-making, based on wives’ labor force participation, using IFLS data. Taking wives’ labor force participation status as a treatment and employing the marginal treatment effect method (MTE), we test how wives’ involvement in the labor force affects her decision making power in the household. While we find that for most households, wives experience an increase in decision making power as their labor market participation increases, there are specific sub-groups, where decision-making power reduces with an increase in labor

force participation. Our preliminary results suggest that the decision-making process differs across households and that neither the unitary model nor the bargaining model can fully capture underlying household dynamics. Although, the unitary model with a dominant husband could explain the decision making-process for sub-groups where housewives work and subsequently lose their decision making power.

In addition to my main areas of research, I have also worked on poverty measurement. In one of my projects, **"Evaluating a Long-run Forecast: The World Bank Poverty Forecasts, evaluated a poverty forecast made by the World Bank"** (with Herman Stekler; published in *Economic Bulletin*, 2017), we suggest a simple but reasonable approach to evaluate a poverty forecast when the actual data for the terminal date is not available. The methodology requires one to infer a forecast for an intermediate date for which the data are available. In this case, we analyze the World Bank's forecasts of the poverty headcount made in 2002, but the actual data for the terminal date will not be available for some time. In another project, **"Chronic Poverty Measurement,"** I survey the existing two different approaches to measure chronic poverty. I suggest a new interpretation for each chronic poverty measure's main assumption and argue that the choice of appropriate measure is contingent on the availability of survey data, either consumption data or income data.

To conclude, at this point in my career, my primary interests lie in (1) pursuing a combination of theory and empirics to address various policy-related topics in labor/development economics and (2) further investigating intra-household bargaining. In the long term, my goals are to deepen my understanding of labor market issues in developing countries and utilize my skills and training as an economist to rigorously investigate and resolve them.