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YÜKSEK LİSANS TEZI

A NEW KEYNESIAN APPROACH TO LABOR MARKET AND UNEMPLOYMENT: THE INSIDER-OUTSIDER THEORY

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TEZ SAVUNMA SINAVI, İÜ Lisansüstü Eğitim-Öğretim Yönetmeliği'nin **36. Maddesi** uyarınca yapılmış, sorulan sorulara alınan cevaplar sonunda adayın tezinin **KABULÜNE** OYBİRLİĞİ / ~~OYÇOKLUĞUYLA~~ karar verilmiştir.

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ÖZ

EMEK PİYASASI VE İŞSİZLİĞE YENİ KEYNESYEN BİR YAKLAŞIM :
İÇERDEKİLER- DIŞARDAKİLER TEORİSİ

AYA ALKASRAWI

Bu çalışma, Avrupa'da 1980'lerden itibaren süregiden yüksek işsizliği teorik ve ampirik olarak incelemektedir. Standart rekabetçi analizin, istek dışı işsizliğe ve emek piyasasındaki rijitliğe yeterli bir açıklama sağlamakta başarısız olması, Yeni Keynesyen iktisatçıları, emek piyasasındaki bu yüksek işsizlik oranlarına ilişkin teoriler geliştirmeleri yönünde teşvik etmiştir. Bu tez, esas olarak, içerdekiler-dışardakiler teorisini ele almaktadır. Bu teori, çalışan işçilerin (içerdekiler) piyasa gücünün gerisindeki önemli faktörlerden olan, işgücü devir maliyetlerine dikkati çekmektedir. Ayrıca, işgücü devir maliyetlerinin, içerdekilerin ücretleri ve dışardakilerin fırsatları ile istihdam ve işsizliği ne şekilde etkilediğini incelemektedir.

Diğer taraftan, sendikaların ücretler üzerindeki gücünün, bir ekonominin durgunluktan çıkmasına engel olabileceği üzerinde durulmaktadır; sendikaların gücü arttıkça, ekonominin iyileşme umutları azalmaktadır. Bu çalışmada, emek piyasasına yönelik şoklar ve makroekonomik politikalar karşısında, istihdam ve işsizliğin zaman içinde ne şekilde hareket ettiği konusuna da değinilmektedir. Ayrıca, içerdekiler-dışardakiler teorisinin temel hipotezi olan, sendikaların işsizlik oranı üzerindeki önemli pozitif etkisi, panel data yöntemi ile, ampirik olarak analiz edilmektedir.

Anahtar Kelimeler: İçerdekiler, Dışardakiler, İşsizlik Sürekliliği, İşgücü Devir Maliyetleri, Sendikalar, Makroekonomik Politikalar.

ABSTRACT

A NEW KEYNESIAN APPROACH TO LABOR MARKET AND UNEMPLOYMENT:
THE INSIDER-OUTSIDER THEORY

AYA ALKASRAWI

The present study theoretically and empirically examines the persistence of high unemployment in Europe since the 1980s. Failure of standard competitive analysis to provide adequate explanation of involuntary unemployment and labor market rigidity has provoked the New Keynesian economists to develop group of theories to account for such high unemployment rates in the labor market. This thesis mainly tackles the insider-outsider theory in the labor market. The theory focuses its attention on one critical source of market power of incumbent workers, the labor turnover costs. It also considers how labor turnover costs influence insider wages and outsiders' opportunities and how these costs affect employment and unemployment.

On the other hand, it is indicated that a unions' power over wages may, to some extent, hinder an economy in recovering from a recession, and the greater the unions' power the bleaker the economy's recovery prospects may become. It also addresses how employment and unemployment move through time, in response to labor market shocks and macroeconomic policies. This study empirically analyzes the main hypothesis of the insider-outsider theory that trade unions have a significant positive effect on the unemployment rate by applying panel data method.

Key Words: Insiders, Outsiders, Unemployment Persistence, Labor Turnover Costs, Trade Unions, Macroeconomic policies.

PREFACE

In the name of Allah, the Most Gracious and the Most Merciful, all Praises to Allah for the strengths and his blessings in completing this thesis.

This thesis is part of the requirements for obtaining Master degree in Economics from Istanbul University; an institute and city that became dear to my heart.

First, I would like to thank my supervisor Assist. Prof. Dr. Güzin Emel AKKUŞ for her valuable support, professional guidance, and constructive feedback on improving the quality of this final research paper. I would also like to thank Assist. Prof. Dr. Osman Zeki ÇETINKAYA for his precious time in guiding me with the econometrics part of this thesis.

Last but not least, my deepest gratitude goes to my beloved parents, siblings and friends for their endless love, prayers and encouragement. I truly believe their unwavering support provided me with the strength I needed to complete this work. Thank you all very much.

Aya Alkasrawi - 2016

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ABBREVATIONS

APC	The Absolute Profitability Constraint
GDP	Gross Domestic Product
GOV	Government Expenditure on Labor Market
LMIs	Labor Marker Institutions
LTCs	Labor Turnover Costs
LMP	Labor Market Programs
LO	The Swedish Trade Union Confederation
MRPL	Marginal Product Of Labor
NSC	No-Shirking Constraint
NAIRU	Non-Accelerating Inflation Rate of Unemployment
NII	Net Insurance Indemnity
OECD	The Organization For Economic Cooperation And Development
OPEC	The Organization Of Petroleum Exporting Countries
PRC	The Relative Profitability Constrain
TFP	The Total Factor Productivity Growth
TR	Trade Union Density
UI	Unemployment Insurance
UN	Unemployment Rate

INTRODUCTION

Most of the economic theories have three objectives: (1) to provide an understanding of why a particular economic phenomena occurs, (2) to generate conditional predictions, and (3) to suggest policy prescriptions. The insider-outsider theory tries to provide an understanding of the labor turnover costs in raising the insider power and how the exercise of this power might influence wages as well as employment and unemployment. This thesis will be devoted to explaining how the insider-outsider theory can explain partially the unemployment persistence, provide a brief review of the theory's main predications and finally it will provide some of the policy implications.

Assar Lindbeck and Dennis Snower developed the insider-outsider theory in a series of articles beginning in 1984. The core of the insider-outsider theory is that the "insider" in the firm faces more favorable work conditions than the entrants. The theory attempts to answer many basic, yet vital questions, in the macroeconomics field. Questions like: What causes the involuntary unemployment? What is the reason behind segmenting the labor market? How the labor market and firm's conditions play an important role in the wage setting?

From one side, the insider-outsider theory places emphasis on one vital source of market power of incumbent workers: labor turnover costs. How they use them for their own advantages in the conflict of interest with the outsiders in the labor market. But from another side, the theory also observes the behaviors and activities of the insiders and outsiders and their effect on each other. In fact, the aim is to see how such interaction among insiders and outsiders can help in explaining some vital issues in the economics, such as, unemployment, employment, wage rigidity and many other activities in macroeconomics.

In the first chapter, I go through the 1970s European unemployment crisis by examining the theoretical dispute among the economists. During for the most of the first decades research emphasized on how adverse supply factors, from the oil shocks to the decline in the total factor productivity growth, have played a vital role in the increase in the European unemployment. However, because of the differences in unemployment rates across countries and the persistence of high unemployment in the 1990s, many economists started examining major changes in the institutional characteristics of the European labor markets, particularly during the late 1960s and the 1970s, to specify the attributes of this crisis. The failure of standard competitive analysis to provide an adequate explanation of involuntary unemployment and labor market rigidity has provoked the New Keynesian economists to develop three main groups of theories so that they can account for such high unemployment rates in the labor market; these are: (1) Implicit Contract Theories, (2) Efficiency Wage Theories, (3) Insider-Outsider Theories.

In the second chapter, I start with a conceptual setup of the insider-outsider theory. How the insider-outsider theory is concerned with the conflict of interest between insiders and outsiders in the labor market? I make a brief distinction between an insider and an outsider, which is a distinction that can be made along a variety of aspects. Mainly, "Insiders" are incumbent employees whose positions are protected by labor turnover costs. On the other hand, "Outsiders" enjoy no such protection; they could be unemployed or working in the informal sectors of the labor market. Lindbeck and Snower formulated five main assumptions for the insider-outsider theory; (1) insiders have some market power arising from the economic rent that is generated by the labor turnover costs. (2) Outsiders and entrants have less market power than insiders. (3) Insiders use their power to pursue their interests in wage negotiations, without taking the entrants' and outsiders' interests fully into account. (4) Entrants become insiders after limited "initiation period", and insiders become outsiders immediately after losing their jobs. (5) The insiders' wage-augmenting activities would exercise upward pressure on wages and thereby cause high levels of unemployment. The theory examines how the employment level and the insider wage depend on the size of the incumbent force within the firm. I

examine the various types of labor turnover costs that give insiders their market power, how they use this power to their own advantage (e.g., in pushing up their wages), how the insiders' activities affect the outsiders and vice versa, and what this insider-outsider interaction implies for employment, unemployment, and other macroeconomic activities.

In the third chapter, I underline how the insider-outsider theory approach does suggest that unions can amplify the involuntary unemployment. The main assumption is that the union is more concerned about the interests of its employed members than the unemployed ones. I examine the various ways whereby the union can help increase the wage level of its insiders without reducing their chances of continued employment. The trade union can accentuate the costs of hiring and firing, it can increase the effectiveness of the cooperation and harassment activities and finally and most importantly it provides insiders with new rent-seeking tools, such as the threats of strike and work to rule. Based on that I emphasize the way a union formulates its wage proposal which can be examined through three scenarios (1) strike threat with lockout threat; (2) strike threat without lockout threat; and (3) the lock out decision. At the end of this chapter, I concentrate primarily on how the exercise of insider market power affects the "resilience" on a labor market; which means the ability of the market to recover after a business downswing. At first I present a theoretical rationale for hysteresis and its implications, then I differentiate between the asymmetric and symmetric persistence. After which I move to the union activity and its relation with the unemployment persistence effect. I also discuss the ways in which macroeconomic policies may affect wages and employment through shifts in the labor demand relation, and examine how such policies change the relation between real wages and labor demand.

The fourth chapter empirically analyzes the main hypothesis of the insider-outsider theory; trade unions have a significant positive effect on unemployment rate. In this study, I use three groups of countries with different unemployment experiences for the period of 1985-2013 on an annual basis by applying panel data method. In the conclusion section, I summarize the main results that I have reached throughout the examination.

CHAPTER ONE

THE CAUSES OF THE HIGH UNEMPLOYMENT IN EUROPE

High unemployment was not a European trait. Unemployment rates were so low, economists named it the "European unemployment miracle". However, this miracle came to an end in the 1970s, when unemployment steadily increased throughout the 1980s. Despite turning around in the mid-1990s the current unemployment rate in the European Union is still very high; around 9.6 %. The following discussion reviews the development of facts and theories to explain the reasons behind the 1970s high unemployment rates in Europe where it jumped from 2% in the 1960s to 8% in the 1980s, and to 11 % in 1996. The long-term unemployment increased from 0.9 % in 1979 to 6.6 % in 1994.

To explain the evolution of unemployment in Europe over the last 40 years, I present the following set of facts: First, there are large cross-country differences in the average European unemployment rate that stretches from 2.6 % in Sweden to 19.7% in Spain (Table 1). Unemployment rates in Spain, Germany, France, and Italy increased steadily and remained very high, around 10 %. Yet, in a number of smaller countries, such as Ireland and Netherlands, the unemployment increased until the early 1980s. After which it steadily decreased till 2004, where the unemployment rate was less than 5 percent in both countries. In a number of other countries, notably Sweden and Norway, unemployment remained consistently low, except for the period of high cyclical unemployment at the beginning of the 1990s. Today, unemployment in both countries is below 5 percent[1].

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[1] Stephen Nickell, "Unemployment and labor market rigidities: Europe versus North America", **Journal of Economic Perspectives**, vol. 11, No.3, Summer 1997, p. 57.

Table 1: Unemployment Rates in the Organization for Economic Cooperation and Development

	1983-88	1989-94	1995-2000	2001-2006
	Total	Total	Total	Total
Austria	3.6	3.7	3.9	4.7
Belgium	11.3	8.1	8.9	7.9
Denmark	9.0	10.8	6.0	4.8
France	5.1	10.5	10.1	8.5
Finland	9.8	10.4	12.4	8.7
Germany	6.8	5.4	12.4	9.5
Ireland	16.1	14.8	8.6	4.4
Italy	6.9	8.2	11.2	8.3
Netherlands	10.5	7.0	5.8	3.8
Norway	2.7	5.5	3.8	4.1
Portugal	7.6	5.0	6.7	5.1
Spain	19.6	18.9	17.5	10.4
Sweden	2.6	4.4	8.1	6.8
U.K	10.9	8.9	6.8	5.0
Canada	9.9	9.8	8.5	7.1
U.S	7.1	6.2	4.8	5.3
Japan	2.7	2.3	3.9	4.8
Australia	8.4	9.0	7.7	5.6
New Zealand	4.9	8.9	6.7	4.5

Second, in the early 1980s the unemployment duration was longer. The flows in and out of unemployment were lower in the United States than Europe. For instance, unemployment spells lasted, on average, 3-4 months in the United States, but were close to one year in Europe. Then, people who were continuously out of work for more than a year was typically 30-50% of the total number of unemployed in Europe. However, these were under 15% in the United States[2]. The increase in European unemployment reflected an increase in duration rather than in flows.

Table (2) shows, there is a huge variation in unemployment inflow rates and durations across countries, unemployment can be viewed as a pool with an inflow and an outflow. Unemployment durations are very high in the European countries and inflow rates are quite low. In Norway, Sweden, Finland, and Japan we notice they have both low inflow and low duration. In North America unemployment durations are very low and inflow rate rather high[3]. Figure (1) also demonstrates the positive relation between the unemployment rate and duration in France. It shows how the increase in unemployment rates has come with a high increase in duration.

Third, Figure (2) shows, the U.S. unemployment rate were always higher than the European figure throughout the 1970s; but since the mid-1980s, it has always been lower. From 1970 to 1996, employment increased by 58% in the United States; representing 47 million additional jobs. Employment in Europe, however, increased by 12%, representing 18 million additional jobs only. The employment-population ratio declined in Europe from 65% to 60%. In the United States it increased from roughly the same level to nearly 75%.[4]

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[2] Lindbeck, Snower, **The Insider-Outsider Theory of Employment and Unemployment**, The MIT press, Cambridge, Massachusetts, 1988.p.253.
[3] Richard Layard, Stephen Nickell, Richard Jackman**, Unemployment: Macroeconomic performance and The Labor Market**, Oxford University Press, 1991, pp.220-225.
[4] Horst Siebert, "Labor Market Rigidities: At the Root of Unemployment in Europe", **American Economic Association**, the Journal of Economic Perspectives, vol. 11, No. 3, Summer, 1997, p.37.

Table 2: Unemployment Rates and Flows, 1988

Countries	Unemployment rate (%)	Inflow rate (% per month)	Average duration (months)
Low flow, high duration			
Belgium	8.3	0.2	50
Denmark	9.4	0.8	11
France	11.1	0.6	21
Germany	6.6	0.4	16
Ireland	20.0	0.7	30
Italy	8.6	0.2	36
Netherlands	10.1	0.4	25
Spain	23.6	0.2	105
UK	9.1	0.9	10
High flow, low duration			
Australia	7.8	1.4	6
Canada	8.3	2.6	3
USA	5.8	2.2	3
Low flow, low duration			
Finland	5.3	1.1	5
Japan	2.6	0.5	5
Norway	3.3	1.1	3
Sweden	1.6	0.5	3

Source: Richard Layard, Stephen Nickell, Richard Jackman, **Unemployment: Macroeconomic performance and The Labor Market**, Oxford University Press, 1991, pp.222

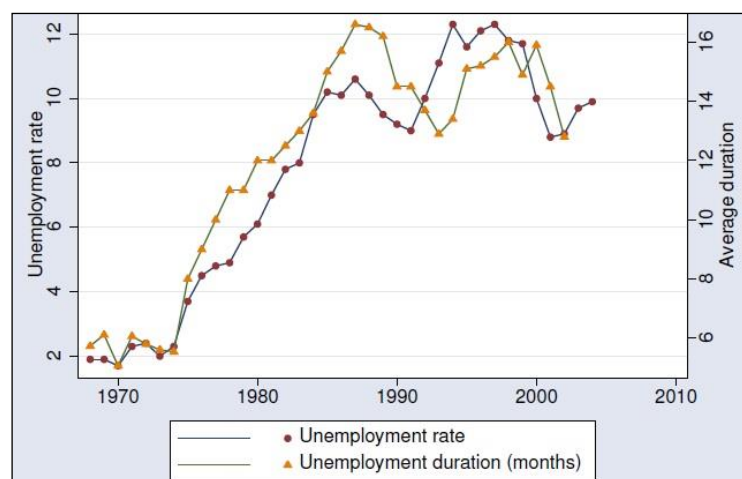**Figure 1:** Unemployment Rate and Duration in France

Source: Olivier Blanchard, "European Unemployment: The Evolution of Facts and Ideas" **National Bureau of Economic Research**, Working Paper No: 11750, Massachusetts, Cambridge, November 2005, p.7.

Figure 2: Unemployment Rates in OECD Europe and the United States.

Unemployment

This made many researchers to question: what accounts for today's high unemployment? How could the differences in unemployment rate across countries refer to differences in causes of this increase? Researchers worked to explain the differences between the European countries and the United States. Many focused on shocks the economy went through in those periods. Others examined key changes in the institutional characteristics of the European labor markets; particularly during the late 1960s and the 1970s to specify the attributes of this crisis.

1.1. The Role of Shocks in Causing the Unemployment Crisis

Two shocks have played a fundamental role in the unemployment crisis in Europe: the oil shocks, and the decline in the total factor productivity growth (TFP). Europe, just like the rest of the world, faced two major oil price increases. The first one was attributed to the Arab oil embargo between 1973 and 1974. The second one was attributed to the 1979 Iranian revolution and the 1980 Iran-Iraq war.

In an attempt to understand the European experience with unemployment since 1970, it is vital to invoke the following proposition; along a balanced growth path, the wage consistent with stable employment must grow at the rate of Harrod–neutral technological progress.[5]

"The concept of Harrod-neutral technological progress magnifies the technical progress which increases the efficiency of labor, so that the labor force in efficiency units increases faster than the number of workers available. Technical progress of this form is thus labor-saving. It is contrasted with Hicks-neutral technical progress, where the efficiency of all factors increases in the same proportion."[6]

In addition, to maintain zero net profit for firms when other production factors increase, the wage must undergo reduction in its value. This kind of wage is known as the "warranted wage". The wage set in bargaining is known as "bargained wage". If the bargained wage increment was faster than the warranted wage, equilibrium employment will decline, and the natural rate of unemployment will increase[7]. The series of adverse shocks faced the European countries in the 1970s; led to the slowdown of warranted wage growth rate. The following discussion represents the main shocks:

The first major post-war oil crisis was in 1973-74, this oil shocks caused a severe economic recession that still remains an open field to research. It was also one of the reasons behind the great inflation, which lasted from 1965 till 1980s. In October 1973 the Arab-Israeli conflict made the organization of petroleum exporting countries (OPEC) take a new policy that persuaded oil prices quadrupling in just a

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[5] Olivier Blanchard, Justin Wolfers, " The Role of Shocks and Institutions in the Rise of European Unemployment: The Aggregate Evidence", **NBER Working Paper No: 7282**, August 1999, pp. 4-6.
[6] Oxford Reference, "Harrod-neutral technical progress", online, http://www.oxfordreference.com/view/10.1093/oi/authority.20110803095922777, 15.10.2015.
[7] Olivier Blanchard, "European Unemployment: The Evolution of Facts and Ideas", **National Bureau of Economic Research,** Working Paper No: 11750, Massachusetts, Cambridge, November 2005, pp.14-13.

few months. Uncertainty clouded the quantity and price situation, which the world's biggest importer, the European Community, would have to face[8].

Despite the fact that the embargo was not enforced uniformly in Europe. France and the UK refused to defend the Netherlands when subject to this embargo. Instead, they made bilateral deals with Arab states in order to maintain their own oil supplies[9]. The price increments led to an energy crisis of even greater proportions than in the United States, it resulted in a shortage of oil that induced authorities in countries such as Great Britain, Germany, Switzerland, Norway and Denmark to take a number of measures to restrict consumptions. These measures included limitation policies on boating, flying, and driving (e.g. preventing the use of cars on Sundays. In addition, heating restrictions were imposed). This oil price increment also led to shortage in other goods that caused many industries to shut down. Moreover, the energy crisis induced a sense of insecurity among the European countries by exposing the vulnerability of the European economies.

Increment in oil prices in the span of six years resulted in a significant recession in several regions of the world including Europe. That induced the rise to what was termed "Euro-stagnation" or "Euro-slump" in the 1970s-1980s. The unemployment rate was significantly high and job creation was slow due to the mass of rules and regulations governing many aspects of behavior in European labor and related markets. The latter led to restrictions on the flexibility of the market, and hence, the raise in the equilibrium unemployment rate[10].

In 1979 the Iranian revolution, formed in a series of strikes and work slowdown, led to the formation of the Iranian Oil Crisis. This led to the productivity of the Iranian oil industry to slow down. On the 26th of December 1979, the Iranian authorities suspended oil exports, raising concern among oil importing states. Iran

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[8] Olivier Blanchard , "European Unemployment: The Evolution of Facts and Ideas", **National Bureau of Economic Research**, Working Paper No: 11750, Massachusetts, Cambridge, November 2005, pp.11-12.
[9] Anil Awesti, "The Myth of Eurosclerosis: European Integration in the 1970s**", L'Europe en formation**, No.353-354, Autumn 2009, p.41.
[10]Simon M. Burgess, " A Search Model with Job Changing Costs: 'Eurosclerosis' and Unemployment", **Oxford Economic Papers**, Vol. 44, No. 1, January, 1992 , pp. 75-76.

was the world's fourth largest oil producer with an average output of 6.05 million barrels a day, the equivalent of almost one fifth of OPEC's total production ranked oil exporter[11]. The prices of crude oil kept rising after the Iran-Iraq war started in the 1980; this represented the second oil shock. Figure (3) illustrates the history of oil prices and how the oil prices kept raising to twelve times their pre-crisis level in 1980s; 36 dollars for the barrel compared to 3.
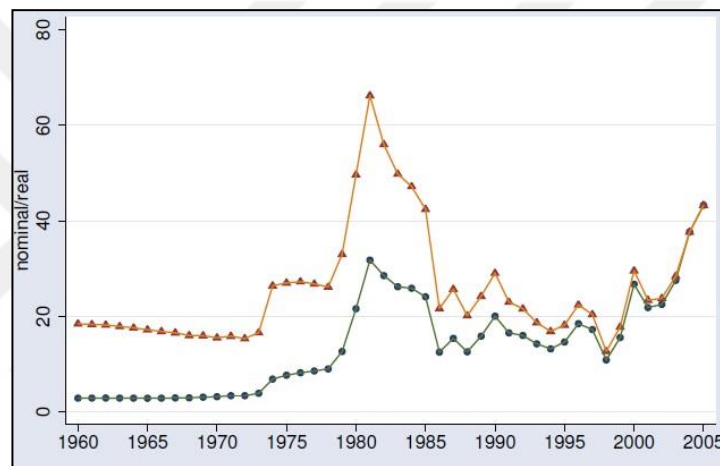
Figure 3: Nominal and Real Price of Crude Oil

Source: Olivier Blanchard, "European Unemployment: The Evolution of Facts and Ideas" **National Bureau of Economic Research**, Massachusetts, Cambridge, November 2005, p.10.

The Decline in the *Total Factor Productivity Growth (TFP)* measures the efficiency of all inputs in a production process. Increases in TFP result usually from technological innovations or improvements. In the early 1970s, Europe suffered from a large decrease in its TFP. Figure (4) shows the evolution of the average rate of TFP growth of the (E15) countries (Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain, Sweden, and the United Kingdom). And the (E5) countries; are the largest European

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[11]James Phillips, "The Iranian Oil Crisis", **The Heritage Foundation**, online, http://www.heritage.org/research/reports/1979/02/the-iranian-oil-crisis, 03.11.2015.

countries (France, Germany, Italy, Spain and the United Kingdom)[12]. The figure displays the decline in TFP growth from 5% in the 1960s to 2% in the 1970s.

Figure 4: Total Factor Productivity Growth
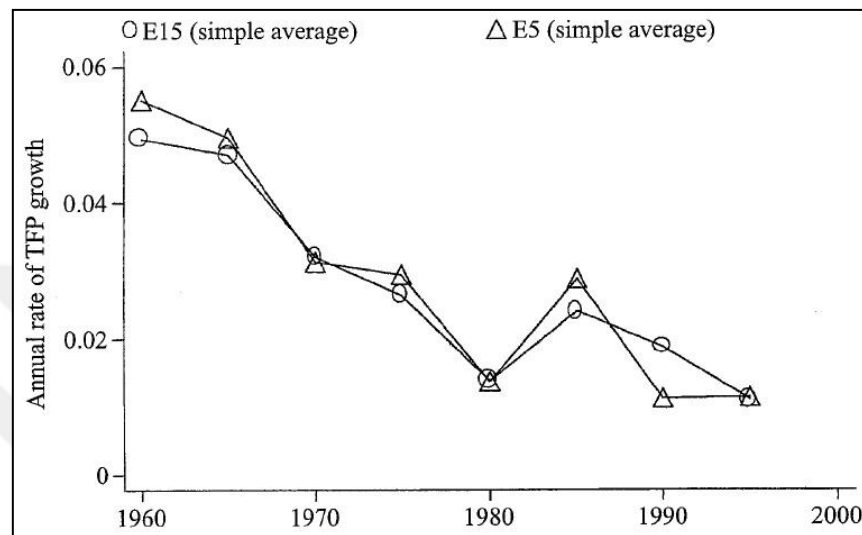
Source: Olivier Blanchard, Justin Wolfers, " The Role of Shocks and Institutions in the Rise of European Unemployment: The Aggregate Evidence", **NBER Working Paper No: 7282**, August 1999, p.6.

This slowdown can be considered as the most important shock in that period, especially after the high rates of TFP growth the economy witnessed for 30 years after World War II during the "catching-up" process. Olivier Blanchard and Justin Wolfers pointed out that this slowdown in the TFP growth could cause an increment in the equilibrium unemployment rate for some period[13]. However, because of the increase in the oil prices and other vital raw materials, the decrease in the TFP growth went unnoticeable. This misleads many researchers, such as Bruno and Sachs, into studying the change in relative prices rather than the decline in the TFP growth. Normally, such slowdown would not induce that persistence in the unemployment rate. But here lies the puzzle of European unemployment. The United States, who also went through the oil shocks and the slowdown in the labor productivity in the early 1970s, did not face the same persistence in unemployment

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[12] Olivier Blanchard, Justin Wolfers, " The Role of Shocks and Institutions in the Rise of European Unemployment: The Aggregate Evidence", **NBER Working Paper No: 7282**, August 1999, pp. 4-6.
[13] Ibid.

as Europe did over 30 years. Even if we are to speak about technological transforms or the augment in trade with developing countries, it is notable that the United States had undergone the same experiences. Still, the unemployment state differs noticeably.

In conclusion, exogenous economic changes were not the only trigger for the high unemployment in Europe. Indeed these two shocks entailed a slowdown in the rate of growth and a decrease in the unemployment rate, but their long lasting effects drove a lot of researchers to question: what accounts for today's high unemployment? In fact, these two shocks came after a period of labor unrest in many European countries, representing the end of many dictatorships in France in 1968, Italy in 1969, Portugal in 1974 and Spain in 1975. All of this increased the demand for higher wages[14]. Consequently the high unemployment rates were the outcome of lower growth of warranted wages and the higher wage demands. By the end of the 1970s, unemployment in the largest European countries (France, Germany, Italy, Spain, and the United Kingdom) had increased from 2% to 5%. At the start of the decade the unemployment in Spain exceeded 10% and 6% in both Italy and France. In the following section, I will discuss an overview of institutional changes in Europe and how these various institutional changes affect the labor market.

1.2. The Role of Labor Market Institutes in Causing the Unemployment Crisis

In the beginning of the European unemployment crisis in the 1970s, researchers' main focus was to explain the phenomenon through the shocks the economy went through. However, with persistence of high unemployment in the 1990s, researchers and policy makers started to question how the 1970s and 1980s shocks still have such a strong impact in the 1990s and 2000s? Differences in unemployment rates across countries, pointed to differences in labor market

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[14] Olivier Blanchard, "European Unemployment: The Evolution of Facts and Ideas", **National Bureau of Economic Research**, Working Paper No: 11750, Massachusetts, Cambridge, November 2005, pp.11-12.

institutions (LMIs). In attempt to explain unemployment, a clear shift in focus took place among researchers and policy makers; to look into major changes in the institutional characteristics of the labor markets, especially in the late 1960s and in the 1970s.

The famous 1994 OECD "Jobs Study" can be considered as the first output of this shift in focus. The OECD report adapted that labor market institutions were the source of high unemployment. The OECD report had also recommended many reforms concerning the design of unemployment insurance, employment protection, reduction of the tax wedge, the minimum wage, and better training and active labor market policy programs. This report was very influential and after awhile, attributing European unemployment to labor market rigidities, received a wide acceptance among policy makers[15].

Before going in depth to discuss the role of labor market institutions, I ought to clarify, briefly, what are labor market institutions (LMIs)? And why do they exist? Blau and Kahn defined LMIs as *"the framework of laws (i.e. programs and conventions) that influence labor market activity and that cause the labor market to function differently from a spot market"*. These institutions counterbalance the market imperfections; uncertainty and asymmetric information. Economic history shows that labor market problems led to the establishment of LMIs (unemployment insurance, labor unions) rather than the opposite.

Here is some evidence of changes in the labor market institutions that occurred in European countries in the 1960s and 1970s. In France, the minimum wage was raised from approximately 40 percent of the average monthly wage in the mid-1960s, to 50 percent by the late-1980s. Unemployment benefits also witnessed a rise in 1979, and in 1989 guaranteed income benefits were offered[16].

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[15] OCED, "The OEC Jobs Strategy", **OECD head of Publications Service**, France, 1996, pp. 1-23.
[16] Horst Siebert, " Labor Market Rigidities: At the Root of Unemployment in Europe", **American Economic Association**, vol. 11, No. 3, Summer 1997, pp. 40-43.

From 1966 to 1970, Italy established regulations on firing procedures, the strict regulations led to firing costs being considered infinite. However, after the high unemployment rates in the 1970s, Italy reformed many regulations. In 1977, Italy authorized temporary work contracts. In 1986 layoffs for economic reasons were authorized. And in 1992, Italy ended its practice of (the scala mobile) that aimed to adjust wages to inflation on a quarterly basis for all wage and salary earners. From 1968 to 1973 Germany applied a policy of "harmonized action", which aimed to evoke joint effort among trade unions, employers' associations and government to determine fiscal, social and income policies. In the United Kingdom, several laws contributing to rigid labor markets were passed in the 1960s and 1970s, some of which are: the Redundancy Payment Act of 1965, the Unfair Dismissal Law of 1971, and the Employment Protection Consolidation Act of 1978. [17]

The European economy has two types of income floors for individuals who cannot earn their own income in the labor market. The first type is the social welfare benefits, which includes old individuals who lack sufficient retirement payments and those who are physically unable to work. The second type is unemployment benefits; linked to previous work income. The welfare benefits are provided for an unlimited period of time, they are meant to cover the subsistence level, and are usually not linked to previous income. Social security benefits for an employee in Germany increased from 65.7 percent of the net wage income of the lowest-paid job in industry in 1970 to 85 percent by 1994. The varying durations of unemployment benefits among countries follow: 54 months in Netherlands, 33 months in France, and 32 months in Germany, and 39 weeks in the United States[18].

It is difficult to capture all of Europe's institutional changes. However, it is clear that institutional arrangements can influence the clearing function of the labor market in three ways: (1) by destroying the labor supply, (2) by weakening the demand for labor (discourage firms from hiring workers by pushing up the wage

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[17] Ibid.

[18] Charles R. Bean, "European Unemployment: A Survey", **Journal of Economic Literature**, vol. 58, June 1994, pp. 591-593.

costs), and (3) by impairing the equilibrating function of the market mechanism. The European labor markets are less flexible than those of the United States. The main factors behind this difference are the wage and employment flexibility, the reservation wage of labor, the tax wedge, and the extent of wage coordination across a country. The following discussion will go through the effects of the institutional changes.

Regarding Wage and Employment Flexibility, the equilibrating function of the labor market has two key characteristics: wage elasticity of labor demand, and unemployment elasticity of the wage rate. Wage elasticity of labor demand reflects how labor demand reacts to real wage; it also indicates how wage restraint has effective role in making new jobs. Unemployment elasticity of the wage rate represents the way that wage rate reacts to unemployment. It refers to the degree to which workers and trade unions are prepared to apply wage restraint in the event of unemployment.[19]

In general, the quantity of labor the firm would employ at each wage depends on the firm's profit maximizing objective. Therefore, in the short run where the capital is fixed, the firm continues to produce as long as the total revenue product generated by the variable input exceeds the total cost associated with it. In other words, in the short run the firm hires another worker as long as the cost of that worker, his wage, is less than or equal to the value of the worker's extra output. The firm continues to hire until the worker's marginal benefit (i.e. the value of extra output) is equal to the worker's marginal cost (i.e. wage). on the long run all inputs are variables, which means the firm has more flexibility in the combinations of labor and capital used to produce a given amount of a product (i.e. output). Therefore the firm would substitute cheaper inputs for the more expensive labor "Substitution Effect" and reduce its scale of operations because of the cost increase associated with the increase in wage "Scale Effect". We conclude that in the short-run the amount of capital is fixed and therefore no substitution effect exists. In the long run, the firm's

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[19] Horst Siebert, " Labor Market Rigidities: At the Root of Unemployment in Europe", **American Economic Association**, vol. 11, No. 3, Summer 1997, pp. 40-43.

flexibility will be larger by varying its capital stock response to a wage change. Since the labor is the only variable input in the short run, the labor market institutions would be more influential in the labor market, which makes the employment adjustment more rigid[20].

Significant differences are found when comparing short and long run wage elasticity of labor demand in the private sector between USA and EU. On the long run, wage elasticity of labor demand is similar between European countries and the United States. Long run wage elasticity in both being approximately (-1) representing 1% decrease in labor costs, tends to increase labor demand by 1% . On the short run, half of the adjustments in employment occur within a single year in the United States, while within two years in European countries like Germany and France[21].

Unemployment elasticity of the wage rate also differs markedly between countries. This elasticity can be considered a measure of the institutional characteristics of labor markets; it is considered the variable that represents the quantity adjustment in the labor market. Nowadays in USA and UK, half of the adjustments occur within one year. Consequently, both countries have low long-term response of wages to unemployment with (-1) elasticity. On the other hand, Germany has high long-term response of wages to unemployment, it requires four years for half of the adjustment to take place; its elasticity has been estimated to be (-3)[22]. This clearly indicates that in some of the European countries, institutional characteristics require a large real wage correction whenever disequilibrium in the labor market takes place.

In the 1960s and 1970s job protection legislation circulated among most European countries that aimed to regulate the dismissal cases in the labor force. The general procedure contained an approval from the work council, which would take into consideration many social aspects like marital status, number of children and

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[20] Ibid.
[21] Ibid.
[22] Ibid.

health. Severance pay became mandatory in many countries, labor courts started to develop legal norms. The legislation's aim was to make jobs more "secure", and that aim was certainly achieved. However, this kind of legislation focused on short-run benefits and neglected the long-run impact on labor demand. On the long run, these regulations would make dismissal decisions costly, because the employer looked at hiring as an irreversible decision. The employer looks at the hiring decision as an investment, and strong layoff constraints make hiring a worker an irreversible investment as oppose to buying a machine. Indeed, job protection rules protect those who have a job, but they also reduce the incentives to create new jobs. Till this day, temporary work contracts in Europe are legally restricted; overtime rules constrain the working hours' flexibility. In conclusion, layoff constraints can illustrate the fact that the cumulative effects of regulations can be more negative than if they would be taken alone.

The Tax Wedge; in the 1970s and 1980s, most European countries have witnessed an increase in taxes, which had a negative impact on employment. Naturally, their impact differs across countries. Both payroll and income taxes create the tax wedge between labor costs for firms (producers' wage) and net income for workers (consumption wage)[23]. For example, in Germany a 1 percent increase in employers' social security contributions (for unemployment, retirement, health and nursing insurance) would result in an increase in labor costs of 1 percent. Therefore, in the long run, these contributions end up increasing the total labor cost, which would increase the unemployment level.[24] The extensions of social insurance in Europe can be considered as the main reason for the increase of the overall marginal tax wedge, including the employer's and employees' social security contribution, in the 1970s. For instance, in 1970 Germany witnessed an increase in its social security contributions from 26.5% of the gross wage to 42.1% in 1979. It is concluded that, these higher security contributions will leave less room for an increase in the net income for workers. Because firms bear these contributions, increases in the social

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[23] Ibid., p. 48
[24] Ibid.

security contributions decrease the demand for labor on the long run, resulting in a positive impact on unemployment.

The institutional characteristics of bargaining, the high unionization rates in most of the European countries show a collective nature of the bargaining process. Despite the fact that some of the European countries don't have high formal unionization, these countries have high "coverage rate"; indicates the proportion of the labor force that is covered under an unemployment insurance that would entitle them to a future insurance benefit should they become unemployed, usually it is paid to workers by state governments from a fund of unemployment taxes collected from employers. That means employees who are members of a union and employees who are not, are both covered by a collective agreement or a union contract. For example, only 10% of labors in France are officially unionized, but the coverage rate reaches 92%. Coverage rates in Austria, Belgium, The Netherlands and Spain also exceed the unionization rates.[25]

In contrast to Europe, the wage formation in the United States is decentralized. It also lacks unionization and coordination of wage changes across the economy. Wages in the European countries are determined at the industry or the economy level rather than at the firm level. Centralized forms of bargaining means high unionization and coverage rates that can be expected to move wage formation away from a market solution. It is worth mentioning that, since the mid-80s the form of wage bargaining in many European countries has changed. For instance, the United Kingdom and Netherlands witnessed a fall in the union coverage. However France witnessed a significant increase in the union coverage in the 1980s.

The Reservation Wage in the Welfare State; in the 1970s the rise of the European welfare resulted in increasing the reservation wage by setting new set of measures: (1) the minimum wage level was increased, (2) It became easier to gain

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[25] OCED, Employment Outlook, " Collective Bargaining: Levels And Coverage", online, http://www.oecd.org/els/employmentoutlook-previouseditions.htm. 22.02.2015.

unemployment benefits, (3) The duration of benefits became longer, (4) Governmental schemes for the unemployed were extended, (5) The difference between the lowest wage in the labor market and the nonworking income in welfare programs became smaller. All of which influenced the workers prospective on working in the labor market[26].

We conclude other policy measures had an impact on the incentive structure relevant to the labor market, such as the witnessed increase in the legal minimum wage in France and Netherland, in the 1970s. The legal minimum wage has the greatest effect on the level of unemployment once it approaches the market-clearing wage of lower-paid jobs. The policy of the minimum wage that is applied on 18-year-old workers can certainly be considered a major reason for the high youth unemployment in Europe particularly in France, Spain, Portugal and Greece. Taking these factors into consideration, European reservation wage has increased during the 1970s and the 1980s, which impacted the labor market. The first consequence of a high reservation wage trapped people in unemployment, and weakened the role of the market-clearing wage. Thus, high reservation wages discouraged unemployed individuals to search for a job or to work at a low market wage rate. This discouragement was aggravated by the high marginal tax rates for the transition from the social assistance benefits to market income, which further discouraged the searching efforts and fed the poverty trap.

The second consequence was the high reservation wage effect on trade union; where it would become less prepared to take into consideration the costs of the wage increases and their effect on unemployment. In wage negotiations, trade unions pay attention to the level of unemployment only to some extent and only within a certain time lag. But if the unemployed are more-or-less protected by governmental schemes, trade unions have a reduced incentive to consider what sort of impact wage rises will have on unemployment.

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[26] Horst Siebert, " Labor Market Rigidities: At the Root of Unemployment in Europe", **American Economic Association**, vol. 11, No. 3, Summer 1997, pp.50-53.

The third consequence was the impact on the wage structure. Here, wage structure represents the ranking of job and pay ranges; it is the correlation of the levels of pay for different types of employees. Therefore, the high wage reservation moves the wage structure upward and the earnings distribution is cut from below. It is most likely to harm the low-skilled workers, who prefer to stay out of the market, until the market situation gets better. These institutional acts push the reservation wage and induce unemployment of low skilled persons.

In the 1990s, many European countries attempted to conduct marginal changes to their institutions in the labor market, but most of them did not succeed in reducing their unemployment rates markedly, such as France and Germany. However, the UK witnessed a huge improvement in its labor market functioning and even created employment. The key factor here is the role of governments in taking serious steps towards major changes and reforms in the labor market institutions to make the labor market more flexible.

1.3. New Keynesian Approaches to Unemployment

The failure of standard competitive analysis, to provide an adequate explanation of the high unemployment in Europe during the 1980s and 1990s and labor market rigidity, has provoked the new keynesian economists to develop three main groups of theories. These were so that they can account for such high unemployment rates in the labor market: (1) implicit contract theories, (2) efficiency wage theories, (3) insider-outsider theories. The Efficiency wage theories and Insider-outsider theories are the main focus in the new Keynesian economics.

The new keynesian economics has evolved from the ideas of John Maynard Keynes. Through the 1960s Keynes had tremendous influence among academics and policymakers, yet during 1970s Great Inflation, the failure of the stable Phillips curve concept emphasizes the necessity for keynesians to adjust their models so as to

take into consideration both the influence of inflationary expectations and the impact of supply shocks. Consequently new keynesian economics emerged mainly as a response to the theoretical crisis facing keynesian economics in that that period[27].

"The essential difference between the old and new versions of Keynesian economics is that the models associated with the neoclassical synthesis tended to assume nominal rigidities, while the attraction of the new Keynesian approach is that it attempts to provide acceptable micro-foundations to explain the phenomena of wage and price stickiness."[28]

The new Classical and new keynesian economists have different point of view over the speed of wages and price adjustments. The primary assumption in the new classical economics is that wage and prices are flexible. They assumed that prices adjust quickly in order to balance the supply and demand. In contrast, the new keynesian economics consider that market clearing models cannot explain short-run economic fluctuations. Therefore, the new keynesian theories and models rely on a primary assumption that wages and prices rigidity explain why involuntary unemployment exists and why monetary policy has such a strong influence on economic activity. And, they attempt to provide acceptable micro-foundations to interpret wage and price stickiness.

[27] B. Greenwald, J. E. Stiglitz, "Keynesian, New Keynesian and New Classical Economics", **Oxford Economic Papers**, Vol. 39, No. 1, March 1987, pp. 119-132
[28] Brian Snowdon, Howard R. Vane, **Modern Macroeconomics: Its Origins, Development and Current State**, Massachusetts, Edward Elgar Publishing Limited, 2005,p.361.

1.3.1. Implicit Contract Theory

Implicit contract theories aim to understand the 'economic glue' that keeps workers and firms together in long-term relationships in the labor market. Firms believe that developing and maintaining loyalty with their workers is a necessity to have implicit understanding with their workers. The concept of the "Invisible hand shake" emphasizes the assurance the worker needs to the working relationship through the various stages of the business cycle.

The main three perceptions of the implicit contract theories are (1) we have risk-neutral firms and risk-averse workers, (2) workers have less access to capital market than firms, and (3) workers are immobile among firms.[29] This difference towards the risk made it possible for the worker and firm to benefit from a long-term employment relationship. The implicit theory assumes that workers dislike fluctuations in wage. Instead they prefer a stable wage rate as they are more risk averse. Yet the firm prefers a wage level that moves with changes in demand. Therefore, to compensate business for stabilizing the wage rate, the average wage rate under a variable scheme would be slightly higher than under a system of inflexible wages. The difference between the two pay rates is the return to the firm for insuring a constant wage. Consequently workers will accept a real wage. This is lower, on average, than the highly varying rates that would be dictated by market forces. This variation is due to firms providing stable wages over time within the concept of the "the Invisible handshake" and "economic glue"[30].

The idea of the implicit contracts is shown in figure (5). "The wage rate not only represents payment for labor services but also serves as an insurance against the risk of variable income in the face of shocks"[31]. Workers can purchase this insurance only from their employers. The firm consists of three departments: a production

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[29]Assar Lindbeck and Dennis J Snower, "Explanations of Unemployment", **Oxford Review of Economic Policy**, vol. 1, No. 2 , Summer 1985, p. 42.

[30] Brian Snowdon, Howard R. Vane, **Modern Macroeconomics: Its Origins, Development and Current State,** Massachusetts, Edward Elgar Publishing Limited, 2005, p.384.

[31] Ibid.

department, an insurance department, and an accounting department. A production department purchases labor services and credits each worker with his marginal revenue product *(MRPL)*. An insurance department sells fair policies, and depending on the state of nature, credits the worker with a net insurance indemnity *(NII)* or debits him with a net insurance premium. An accounting department pays each employee a wage *(w)* with the property that $w = MRPL + NII$ in every state of nature.[32] However the insurance indemnities to workers can become a burden and drains the profit. Therefore the government can be bearing the burden of insurance; the dole. The practice of layoffs is simply the administrative counterpart of this insurance shifting maneuver[33]; workers are aware that some of them will be laid off in order to become eligible for the unemployment insurance (UI) payments from the government. The Insurance system will pay an individual after losing a job at a rate not equal to 100% of the previous salary. It means employed workers receive a wage level exceeding the unemployment insurance payments. Therefore employed workers are to be envied by their laid-off colleagues-a situation that many economists would call "involuntary unemployment."

Figure 5: Dynamics of Implicit Contracts
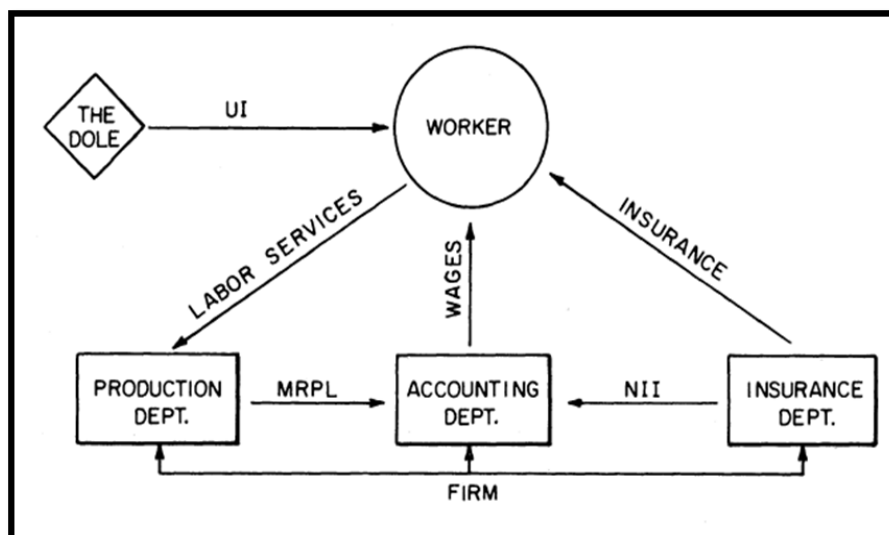
Source : Costas Azariadis and Joseph E. Stiglitz, "Implicit Contracts and Fixed Price Equilibria" , The **Quarterly Journal of Economics**, vol. 98, 1983, p. 4.

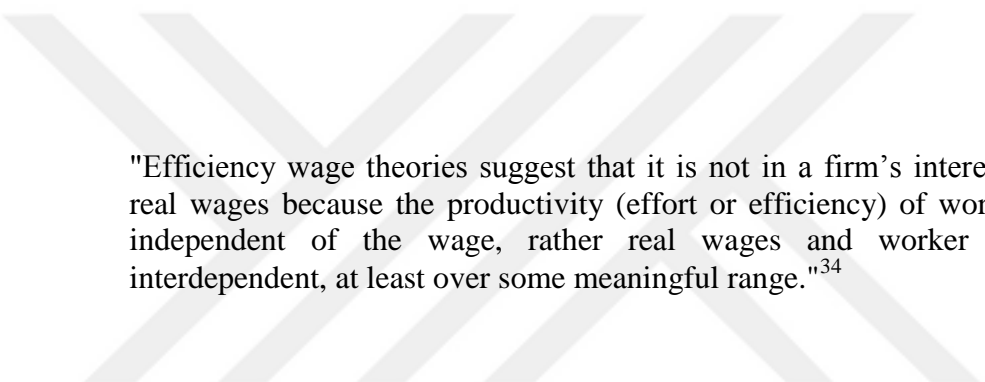[32]Costas Azariadis and Joseph E. Stiglitz, "Implicit Contracts and Fixed Price Equilibria", **The Quarterly Journal of Economics**, vol. 98, 1983, p.4.
[33] Ibid., p.5

1.3.2. Efficiency Wage Theory

This theory provides an explanation for the persistent real wage rigidities that cause involuntary unemployment. It approaches the reasons of why firms might find it profitable to pay a wage above the market clearing level. It also approaches the reasons why unemployed workers are unable to bid down wages to a level that generates full employment. The efficiency wage theory assumes that workers' productivity has a positive relationship with real wages, and consequently does not perceive lowering real wages as beneficial to the firm.

"Efficiency wage theories suggest that it is not in a firm's interest to lower real wages because the productivity (effort or efficiency) of workers is not independent of the wage, rather real wages and worker effort are interdependent, at least over some meaningful range."[34]

Four models have been introduced that explain why paying above market wages may lead to lower production costs: (1) adverse selection, (2) labor turnover model, (3) shriking model, (4) fairness model.

The adverse selection model; the main assumption in this model is that labor market is populated by heterogeneous individuals. Therefore, the firm offers higher wages to attract the best workers. The model assumes that, asymmetric information dominates labor market; i.e. one party of the transaction has more information than the other. In other words, the firm has imperfect information about the applicant's productivity prior to hiring. On the other hand, applicants have more information about their own characteristics (e.g. honesty, commitment and qualifications).

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[34] Brian Snowdon, Howard R. Vane., **Modern Macroeconomics: Its Origins, Development and Current State**, Massachusetts, Edward Elgar Publishing Limited, 2005,p.384.

Due to the fact that hiring and firing are highly correlated with high costs, firms prefer to find the best worker from the start. This is more efficient than going through the process of interviewing, training and hiring and later finding out that they need to fire the worker because of his/her low productivity. The worker's ability and reservation wage are positively correlated. Therefore the firm sends out signals throughout hiring; by setting high wages to obtain the most productive job applicants. Even in the case of excess supply of labor, it is not in the firm's interest to hire at lower wages because it would increase the probability of productive workers voluntarily quitting. As a result, underemployment equilibrium is attained. However, the wages above the market clearing level will continue to be profitable for the firms. Because, eventually, the firm is interested in minimizing its cost per efficiency unit rather than choosing the minimum wage to determine its labor demand. Labor turnover model aims to reduce the labor turnover costs (training, hiring, recruiting, and firing). The firm may offer efficiency wage higher than the market-clearing wage. The concept of this model is that workers' willingness to leave a job will be reduced if the firm is willing to pay above the market-clearing wage. In this model, it is assumed that workers are risk averse. Therefore, a worker offered a new job, conducts a comparison between the benefits of his/her current job and potential benefits of the new job. The worker will be less incentive to leave his job if the alternative opportunities are less than his current paid wage, and consequently, unemployment rate increases.

"Labor market equilibrium entails involuntary unemployment since all firms need to raise their wages to discourage workers from quitting. In situations where unemployment increases, the wage premium necessary to deter labor turnover will fall."[35]

The Shirking model is based on the fact that firms don't have perfect information related to its employees. The main assumption is that labor contracts are incomplete; contracts cannot accurately outline the aspects of workers' performance

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[35] Ibid., p.388.

and duties. This gives workers the ability to exercise discretion with respect to their effort levels. Collecting information about individual productivity and monitoring the worker's performance is prohibitively costly. It also undergoes legal constraints that limit the consequences of a low performance. Therefore, the firm might find it more profitable to offer efficiency wages higher than the market clearing equilibrium; such as incentives to restrain a worker from shrinking.

The dismissal threat might prevent the worker from shirking. However, if all firms pay the same wage in full employment, finding a new job will take place within a short period and at the same wage. This threat will not have an effective impact on the labor market. Therefore, if the firm tends to pay wages higher than the going rate, or the labor market is suffering from high unemployment rates, the worker will keener not to shirk. This is because he will then face a real cost of being fired and shirking becomes more risky for each worker. High wages also have the additional benefit of allowing firms to reduce their expenditures on monitoring worker's effort. Shapiro–Stiglitz model can be considered as the simplest version of the shirking model. The model assumes that efficiency wages act as a disincentive to shirking model, resulting in an involuntary unemployment. As Shapiro and Stiglitz note, "*if it pays one firm to raise its wage it will pay all firms to raise their wages*"[36].

The fairness model; Solow has argued: "*The most elementary reason for thinking that the concept of fairness, and beliefs about what is fair and what is not, play an important part in labor market behavior is that we talk about them all the time*".[37] Tracking the unfavorable effects of wage cuts or the unfair wags on the worker productivity became an area of interest for research for many economists in the recent years. Akerlof emphasized the importance of fairness, and argued that the cooperation of workers is something the firm needs to obtain. To explain his idea, he developed a model called the gift exchange model which can be summarized by *"A fair day's work for a fair day's pay"*. He explained

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[36] Ibid., p.390.
[37] Ibid., p.392.

"Workers' effort is a positive function of their morale and a major influence on their morale is the remuneration they receive for a given work standard which is regarded as the norm. If a firm pays its workers a wage above the going market rate, workers will respond by raising their group work norms, providing the firm with a gift of higher productivity in exchange for the higher wage".[38]

The sociological model suggests that, efficiency wages are likely to arise where work groups and teamwork are important. Worker morale, loyalty and productivity may depend on the extent to which the firm shares its rents with its employees. The sense of justness in the wage setting might affect the productivity of a worker in case effort levels are linked to worker morale and the sense of loyalty towards the firm.[39]

"The essence of this innovative approach to explaining real wage rigidity is that the morale of a firm's human capital can easily be damaged if workers perceive that they are being unfairly treated. Firms that attach importance to their reputation as an employer and that wish to generate high morale and loyalty from their workforce will tend to pay efficiency wages which are perceived as fair"[40].

1.3.3. The Insider-Outsider Theory

The efficiency wage theories believe that the labor market power is in the hands of the firm. Thus, it is usually the firm who decides whether to pay the worker a wage higher than the market wage. However, the insider-outsider theory believes that some of this power lies in the hands of the workers to determine wage and unemployment decisions. Both of the insider-outsider theory and efficiency wage theories explain the involuntary unemployment from different perspectives and since the amount of involuntary unemployment may depend on what firms are willing to

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[38] Ibid., p.393.
[39] Lawrence F. Katz," Efficiency Wage Theories: A Partial Evaluation", **MIT Press, NBER Macroeconomics**, Ed. by Stanley Fischer, vo. 1, 1986 ,p.248.
[40] Brian Snowdon, Howard R Vane, **Modern Macroeconomics: Its Origins, Development and Current State**, Massachusetts, Edward Elgar Publishing Limited, 2005,p.393.

give and what workers are able to get these theories are considered complementary rather than incompatible.

Lindbeck and Snower developed the theory during the 1980s. The insider-outsider theory explains why wage rigidity persists in the face of involuntary unemployment. The theory shifts attention on how the jobs of the incumbent workers (insiders) are protected by the labor turnover costs, and therefore the incumbent workers are able to drive their wages above the level at which the unemployed workers (outsiders) are willing to perform their jobs. Yet firms find it costly to exchange the current experienced employees by the outsiders. Not to mention the time consuming process of turning an outsider into an insider[41].

This approach has four main assumptions that should be taken into consideration: a) firms face labor turnover costs; b) the insider has some market power; c) after a period of time entrants can be linked to the turn over cost as insiders and they will have the ability to renegotiate their wages; and d) employment decisions are made unilaterally by the firms. The insider-outsider theory is to be covered in greater details by the rest of this thesis.

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[41] Assar Lindbeck, Dennis J.Snower, "Explanations of Unemployment", **Oxford Review of Economic Policy**, vol. 1, No. 2, Summer 1985, pp. 47-48.

CHAPTER TWO

THE INSIDER-OUTSIDER THEORY: LABOR TURNOVER COSTS

The insider-outsider theory was developed by Assar Lindbeck and Dennis Snower in a series of articles beginning in 1984. The theory examines the behavior of economic agents in the labor market where some participants have more privileged positions than others. The theory attempts to answer many basic, yet vital questions in the macroeconomics field. Like what causes the involuntary unemployment? What is the reason behind segmenting the labor market? How do the labor market and firms conditions play an important role in the wage setting?

This chapter is organized in the following order: section 1 explains the underlying conceptual setup of the theory and examination of the workforce size effect on unemployment. Section 2 explains the wide variety of forms for the labor turnover costs. And, how these costs arise from insiders' attempts to protect their jobs, and inhibit wage underbidding and wage competition. It also sheds light on how labor turnover costs determine the firm's degree of substitutability between two alternative sets of wage negotiations with the insiders and outsiders.

2.1. The Underlying Conceptual Setup

The insider-outsider theory is involved in highlighting the conflict of interest between insiders and outsiders in the labor market. In order to make a distinction between homogeneous groups of "insiders" and "outsiders" in labor economics; we must take into consideration that there is no sharp distinction between the insiders and the outsiders group. For example, the borderlines between the insiders and outsiders can stretch from employed to unemployed workers, the short term-unemployed to the long-term unemployed, unionized to non-unionized workers,

formal to informal sector jobs, workers who have significant firm-specific skills to those who do not, and so on. Despite having multiple categories within the insiders and outsiders themselves, the distinction between insiders and outsiders is a distinction between groups of workers who have different employment opportunities.

The insiders are the 'incumbent' employees who have more favorable employment opportunities than the outsiders. They represent employees whose positions are protected by a range of employment-preserving devices such as employment protection regulation, their unions, and the fact that they are experienced collaborators due to their seniority. The greater their seniority, the more protected their positions become. It is costly for an employer to dismiss and replace insiders with someone else. Insiders use the labor turnover costs (most common costs are hiring, firing and providing firm-specific training) as armor plate for protection to empower their positions further. In other words, the insiders face more favorable opportunities than the outsiders attributed to their ability and willingness to use turnover costs to push their wages above the market clearing level.

In practice, the insider has more power than the outsider. Insiders can implement a number of strategies to protect their positions within the firm; they participate in wage negotiations, individually or through unions. This enables them to try to push their wages to reach a rank that can preserve their position and motivate them to be more effective in their current job. They can also ask to apply some of the seniority rules within the firm, the base to which is "last in, first out". The insiders can cooperate with management in generating production, sales, and profit, or they can create strikeouts, work to rule activities which are supported by trade unions. Basically, insiders can influence the work morale and productivity of their colleagues. The outsiders, however, do not have the same powers. Outsiders are those who lack the protection the insiders have. They are either unemployed or work in some informal competitive sectors in the labor market. We can describe them as inactive individuals.

The main disadvantage for the outsiders' long involuntary unemployment is that, as the duration of unemployment rises, chances of competing for available jobs decrease. And when the outsiders manage to get a job, their relations with their previous colleagues and employers often die away. They often deal with harassment and usually are not a party in the negotiations that set the insiders' conditions of employment or the process that determines the entrants' conditions. Thus, the constant bargaining with the employers about issues related to the employment conditions (wage settings, working hours, insurance, etc.) are generally a privilege the outsider is derived from having. Some economists emphasized on the "entrants" group too. Entrants lie between the outsider and insider groups. They are the employees who have recently entered employment with a future prospect of gaining the insider status.

Nevertheless, in some cases, the employer may find it more beneficial to dismiss the insider and replace him by an outsider; here the outsider can extract an indirect influence on the insiders' wages and job prospects. This case takes place if the insider repeatedly demanded compensation, called too many strikes, or when his effort into his job decreases. The insider knows this, and that is why while practicing different activities, the insider ensures that he remains as least as profitable to their firm as the outsider could be.

From a social aspect, we can distinguish between insiders and outsiders by approaching the "social exclusion" phenomenon. It is a growing phenomenon in many developed countries; where individuals in societies feel excluded from the social relation networks. Individuals in this phenomenon are often unemployed or might be occupying temporary or dead-end jobs; jobs requiring minimal skills, offer little pay and have few or no opportunities for promotion or advancement within the company. These result in either relying heavily on the social assistance programs and on transfer payments[1], or instead turn to criminal activities for financial purposes. Such segment within a society can be characterized by poor education/schooling, insufficient social services, and lack of solid infrastructure within neighborhoods.

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[1] A payment made to individuals by the federal government through various social benefit programs.

And here, is where we can truly address and label the real "outsiders". One of the reasons for this social exclusion is their position as outsiders in the labor market.

Lindbeck and Snower formulate five main assumptions for the insider-outsider theory: (1) insiders have some market power, arising from the economic rent that is generated by the labor turnover costs. (2) Outsiders and entrants have less market power than insiders. (3) Insiders use their power to pursue their interests in wage negotiations, without taking the entrants' and outsiders' interests fully into account. (4) Entrants become insiders after limited "initiation period", and insiders become outsiders immediately after losing their jobs. (5) The insiders' wage-augmenting activities would exercise upward pressure on wages and thereby have high levels of unemployment[2].

> "Each insider sets his wage individualistically (taking the wages and employment of all other insiders as given), with due consideration for maximum wage the firm is willing to pay. Consequently each insider sees himself as the marginal incumbent employee when setting his wage."[3]

However, this assumption might overstate the insider's power in one side since it is assumed that the firm has the unilateral control over employment decisions, while the insiders do not have the same control over their wages. They also argued that this assumption might understate it since insiders usually negotiate through unions rather than individually. But the importance that lies behind this assumption is to emphasize the insiders' role in wage and employment determination. And, to assure that the insider-outsider theory is not merely a theory of union activities, even though it provides rationale for such activities. One of the potential misunderstandings regarding the insider-outsider theory is that it primarily contributes to the analysis of union behaviors. It is true that almost all the rent-

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[2] Assar Lindbeck, Dennis J. Snower, **The Insider-Outsider Theory of Employment and Unemployment**, The MIT press, Cambridge, Massachusetts, 1988.p.4.
[3] Ibid., p.5.

seeking activities are more effective when they implied through unions. Nevertheless, hiring and firing costs have their existence even when unions do not play a role in the wage redetermination process. The rents associated with these costs are also significant even when workers individually bargain with the firm. The same case for the harassment and cooperation activities among the workers; they can be pursued by a small group of employees, in which case the union is not necessary. Therefore, the presence of unions is important and empowers the insider's status, but that does not allow the disappearance of rent-seeking activities in the absence of unions.

Back to the assumption of individualistic wage setting, while the insider is setting his wage as high as possible, he should take into consideration two constraints; (1) the absolute profitability constraint; which indicates the insider's urge to stay profitable to the firm. This constraint hinders the insider wage from exceeding the marginal revenue product of the firm's incumbent workforce in addition to the marginal hiring cost, since each insider considers himself as the marginal incumbent. In sum, the insider wage must be sufficiently low so that he does not become idle to the firm[4]. (2) The relative profitability constraint; which indicates the insider's urged to remain at least as profitable to the firm as the marginal entrant. If not, the entrant would replace the insider. This constraint hinders the insider wage from exceeding the entrant wage in addition to the marginal hiring and firing costs. If one of these conditions was not fulfilled, the firm would replace the insider with an outsider[5].

In case incumbent force in the firm is sufficiently large, the entrant's marginal revenue will fall beneath the entrant's reservation wage, making the entrant idle to the firm. Assume the firm chooses not to hire the entrant; the insider will try to set his wage in accordance to the absolute profitability constraint rather than the relative profitability constraint. In other words, the insider wage is set to equal the marginal revenue product of the incumbent workforce plus the marginal firing cost.

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[4] Ibid.
[5] Ibid.

In case the incumbent force within the firm is sufficiently small, the entrant's marginal revenue will exceed the entrant's reservation wage, making the entrant profitable to the firm. Therefore, the insider will try to set his wage in accordance with relatively profitability constraint rather than the absolute profitability constraint.

Depending on these two constraints we conclude that (1) the insider wage level is correlated with the size of the firm's incumbent workforce (m), the firm's incumbent workforce equals the stock of insiders carried forward from the past[6]. (2) Firms face diminishing returns to labor; meaning the larger the incumbent workforce the lower the marginal product of the incumbent workforce. Three scenarios examine the relation between the incumbent workforce and the wage determination; (1) large incumbent workforce, (2) intermediate incumbent workforce, and (3) small incumbent workforce.

In the first scenario, the incumbent workforce is remarkably large; it affects the marginal product of the incumbent workforce negatively since the firm faces diminishing returns to labor. Therefore, the marginal product of the insiders becomes less than the insiders' reservation wage. Normally, each firm has "maximum sustainable incumbent workforce (m_2)" which refers to the maximum possible number of incumbents the firm may have the incentive to employ. In such scenario; where $m > m_2$, the firm finds it worthwhile to reduce its employment. Then the firm needs to decide how large the new workforce will be and whether some insiders will be replaced by entrants. Consequently, the insider wage will be set equal to the reservation wage. In case the insider wage was set beneath the reservation wage, many insiders will have the incentive to leave the firm. And in cases where the insider wage was set above the reservation, some insiders will possibly be dismissed. As a result, the insider wage will be set at its minimum level; equal to the reservation wage, which encourages the firm to employ the maximum sustainable incumbent workforce. In other words, if the insider wage is at the reservation wage level that is equal to the marginal product of the insider, the entrant's marginal product must be

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[6] Ibid., p.90

less than his reservation wage. Under such circumstances, the firm tends to not hire entrants[7].

In the second scenario the incumbent workforce is intermediate, in which $m_2 \leq m \leq m_1$, that is, small enough so that its marginal product of insider exceeds the insiders' reservation wage, however, large enough that the marginal product of entrants, hired in addition to incumbents, falls short of the entrants' reservation wage. Each firm has "maximum sustainable incumbent workforce (m_2)", as well as "minimum sustainable incumbent workforce (m_1)", which refers to the minimum number of incumbents that the firm could employ without having the incentive to hire entrants[8]. Therefore, the firm will not hire new entrants because the marginal product of an entrant is less than the entrant's reservation wage. As a result, the insider is constrained by the need to keep his absolute profitability from falling below zero, rather than remain as profitable as the entrant, since the entrant is never profitable to the firm, according to this scenario. Consequently, the insider sets his wage equal to the marginal product of the incumbent workforce[9].

In the third scenario, the incumbent workforce is relatively small $m \leq m_1$ so that the marginal products of the insider and the entrants exceed their reservation wage levels. Under these conditions, the insider will not be able to exclude the outsider from entering the firm despite cooperation and harassment activities. Therefore, the insider tries to set his wage constrained to the relative profitability constraint. Since the incumbent force is small, the firm tends to keep all of its incumbent force and entrants hired until their marginal product becomes equal to their reservation wage.

Figure (6) illustrates the employment determination in the insider-outsider theory. The figure contains two demand curves: an insider demand curve, along

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[7] Assar Lindbeck, Dennis J. Snower, " Cooperation, Harassment, and Involuntary Unemployment: An Insider-Outsider Approach", **The American Economic Review**, vol. 78, No. 1, March 1988, pp. 179.
[8] Assar Lindbeck, Dennis J. Snower, **The Insider-Outsider Theory of Employment and Unemployment**, The MIT press, Cambridge, Massachusetts,1988,p.97.
[9] Ibid.

which the insider's marginal product is equal to the insider wage, assuming that only insiders are employed. And an entrant demand curve, along which the entrants' marginal product is equal to the entrant wage, assuming that only entrants are employed[10]. The insider demand curve lies above the entrant demand curve due to the insider-insider and insider-entrant cooperation differentiable. It is assumed that the entrants' wages are equal to their reservation (R^{*}_{E}). Note that the absolute profitability constraint (APC) coincides with the insider demand curve since the APC is the locus of wage-employment points at which the absolute profitability of the marginal insider is zero[11].

Figure 6: Employment Determination in the Insider-Outsider Theory
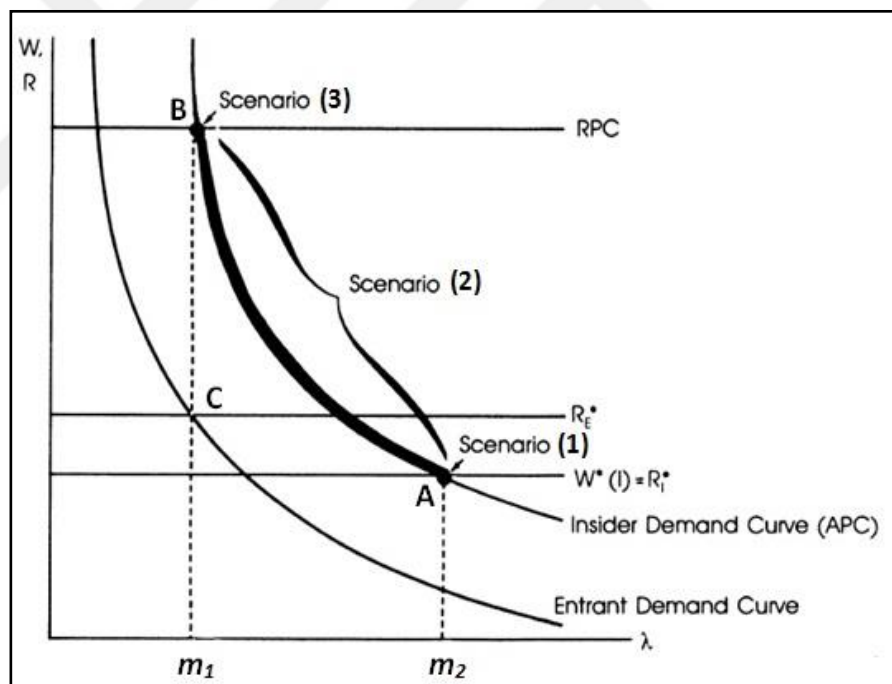
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[10] Ibid., p.99.
[11] Ibid., p.100.

At point (A), the insider reservation wage (R^*_I) line crosses the insider demand curve yields the maximum sustainable incumbent workforce (m_2). This point is the lowest point on the thick line segment which pictures scenario (1) where the incumbent workforce is sufficiently large. Thus, the insider wage is reduced to the reservation wage aiming to keep the jobs of the entire insider group. In response, the firm tends to strictly employ the maximum sustainable incumbent workforce. Most probably some insiders will be fired even if they accept an entrant wage.

Scenario (2) is represented by the thick segment along the insider demand curve indicating a continuum of equilibrium points, each corresponding to different incumbent workforce. The insiders try to prevent all entry into the firm through their cooperation and harassment activities and set their wages to retain their jobs. Eventually, their wages will be equal to the incumbent workforce marginal product. All insiders will then keep their jobs, but no entrant will be hired because their marginal productivity after deducting for labor turnover costs is less than the entrant wage.

Point (*B*) which is the highest point on the thick line segment represents scenario (*3*) where the incumbent workforce is sufficiently small for some entrants to be profitable at their reservation wage. The horizontal line PRC, which shows the relative profitability constrain or intuitively, the maximum wage that insiders may obtain without being replaced by outsiders. But maximum wage is equal to the entrant wage; if the insider wage is higher than that, it pays for the firm to replace insiders by outsiders (the vertical distance between the R^*_E line and the *PRC* line is then costs of hiring and firing labor)[12].

This figure shows what the insiders' cooperation and harassment activities are meant to achieve by cooperating with other insiders. Each insider raises the insider demand curve and is thereby able to achieve a higher wage than what would have

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[12]Assar Lindbeck, **Unemployment and Macroeconomics,** The MIT press, Cambridge, Massachusetts**,** 1993, PP.39-43.

otherwise been achieved[13]. The evidence on this statement is the following: (a) whenever entrants are not profitable, as, in scenario two, the insider wage will be set equal to the marginal product of the incumbent workforce, knowing that the cooperation among insiders raises their marginal product. (b) Entrants in scenario three are profitable, allowing the insider wage to markup over the entrant wage. The cooperation among insiders raises the cost of replacing an insider by an entrant, which increases the markup between the insider wage and the entrant wage. At the end, the firm has no incentive to replace all its insiders with entrants because the only advantage would be a fall in wages since the entrant costs less than the insider. However, the labor productivity will fall by the same amount since the entrant cannot cooperate with one another[14].

During wage negotiations, the insider tries to derive a wage higher than the minimum level the entrant is willing to work at. However, on account of the labor turnover costs the firm may have no incentive to replace its insiders by entrants. The greater the turnover costs, the greater the wage that the insiders can achieve without creating the threat of dismissal.[15] We conclude that the employment level and the insider wage depend on the size of the incumbent force within the firm.

2.2. Employment, Unemployment and the Effect of Labor Turnover Costs

The insider-outsider theory seeks answers to why involuntarily unemployment cannot be eliminated through underbidding. Also, to why involuntarily unemployed workers are unwilling or unable to gain jobs, despite their willingness to work at prevailing wages less than those of the insider. And to why laid-off workers are unable to retain their jobs by underbidding?

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[13]   Assar Lindbeck, Dennis J. Snower, **The Insider-Outsider Theory of Employment and Unemployment**, The MIT press, Cambridge, Massachusetts, 1988, p.101.
[14] Ibid., p.98
[15] Ibid., p.4

As a result of today's changing economy and competitive business environment, most companies are concerned with labor turnover costs (LTCs) and how it could affect the workforce within their companies, especially experienced workers. Thus, labor turnover cost of productive workers is a major source of productivity and profit loss in many firms. Therefore, employee replacement is associated with productivity loss which dominates the reduction in labor cost. As noted in the previous section, the insider derives his market power from labor turnover costs, and the insiders' engagement in rent-seeking activities could augment these costs. This section takes a closer look at labor turnover costs and rent-seeking activities, and their effects on unemployment.

Labor turnover costs can be interpreted as a fee for switching the firm's employees. They are thus costs associated with the dismissal of incumbent employees and the hiring and training of new recruits. The dynamics of labor turnover costs are similar to dynamics of entry barriers. In other words, entry barriers are the reason that makes entering the product market difficult. In cases where the product market is perfectly contestable[16], there will be no barriers to entering or exit the market. This also applies to labor markets; in cases where the labor market is perfectly contestable, there will be no labor turnover costs. In that context, the wage will be at the competitive level because of the entry barrier. When the insiders claim wages above the competitive level, the entrants will have the chance to enter the labor market and underbid the wages. The wage would equal the reservation wage level of the marginal entrant. However, in reality, the labor and product markets are imperfectly contestable. Therefore, the insiders earn more than the competitive wage. In the product market, new competitors are prevented from easily entering an industry or area of business.[17]

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[16] Markets that are with no barriers to entry and extremely low startup costs. Because the market is so easy to get into, the prices stay very low. If they were raised, someone would sell the same product at a lower price, because the market is so easy to get started in. Businesses like newspaper stands are an example.

[17] Assar Lindbeck, Dennis J. Snower, "The Insider-Outsider Theory: A Survey", **IZA Discussion Paper No. 534,** July 2002, pp.8-10.

Many scholars, such as Oliver Williamson and Ronald H. Coase believe that the turnover costs are a type of transactions costs[18]. They make up the source, which infuses the insiders' influence on their employers. The insider can easily change the employment condition for his own advantage, without persuading his employer to replace him with an outsider. This might be at the expense of the outsider and the employer himself. Considering that, the outsiders are not a party to negotiate setting the conditions of employment for insiders. The insiders, by contrast, can engage in various anticompetitive practices.

The influence of LTCs on employment and unemployment depends on the nature of macroeconomic fluctuations. When the economy is suffering from large prolonged shock, the firm will have more incentives to fire workers in the downswings and to rehire them in subsequent upswings. However if the shock is mild and short-lived, the firm will have an instinctive to hoard labor during the downswings and later during the upswing this labor will put back into regular use.

During the "ordinary business cycle", mild and short-lived downswings and upswings take place. It is contradictory to economic sense for a firm with high labor turnover costs to fire, and later to rehire employees if it expects to need them again soon. Therefore the insider wage is not raised much in an upswing; which would otherwise make it unprofitable for the firm to bring the hoarded labor back into use. One of the convincible rationales for this assumption is that insider might be up against the relative profitability constraint, which indicates that the insider must remain at least as profitable to the firm as the marginal entrant. At the end, the firm aims to maximize the present value of its profit, taking into consideration the labor turnover costs and the cyclic variations in the marginal revenue product of labor. Therefore, while making the employment decisions, the firm encounters a tradeoff

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[18] Expenses incurred when buying or selling securities. Transaction costs include brokers' commissions and spreads (the difference between the price the dealer paid for a security and the price the buyer pays). The transaction costs to buyers and sellers are the payments that banks and brokers receive for their roles in these transactions. There are also transaction costs in buying and selling real estate. These fees include the agent's commission and closing costs such as title search fees, appraisal fees and government fees.

between the present value of expected labor turnover costs and the present value of profit gained through prompt employment adjustments.[19]

Subsequently, the greater the labor turnover costs of a country (ceteris paribus), the more labor will be hoarded over ordinary business cycles, and therefore, the employment situation would be more stable. In other words, unemployment level would be lower over the ordinary business cycle. Figure (7) panel a, illustrates employment variability under ordinary business cycle, the solid line illustrates the employment path in a country with large turnover costs, and the broken line represents employment path in a country with low turnover costs[20]. These were the circumstances of many OECD countries in the 1950s and early 1960s.

On the contrary, in the 1980s the OECD countries experienced a prolonged adverse shock, which explains why countries with high labor turnover costs stopped hoarding labor when the severity and the adverse effect of the recession became clear. Figure (7) panel b, illustrates the employment paths after a severe recession; the broken line represents the employment path after the recession path in countries with low turnover costs while the solid line represents the employment path after the recession in a country with large labor turnover costs. Under these circumstances, we can explain why an upturn after a severe recession cannot be a trigger strong enough to increase employment for countries with large labor turnover costs. On the contrary, firms will be comparatively slow to raise their employment due to the labor acquisition costs they would bear and to the expected future dismissal costs that would occur if the upturn turned out to be transient[21].

"Countries with comparatively high labor turnover costs may be characterized by comparatively stable employment paths and comparatively low average levels of unemployment under ordinary business cycles; the

[19]Assar Lindbeck, Dennis J. Snower, **The Insider-Outsider Theory of Employment and Unemployment**, The MIT press, Cambridge, Massachusetts, 1988, pp.244-246.
[20] Ibid.
[21] Ibid., pp.124-126.

same countries may experience comparatively high levels of unemployment in the aftermath of pronounced and prolonged adverse shock." [22]

As a convincible rationale for this assumption, they juxtaposed how the US employment was more variable than European employment in the 1950s and the early 1960s. They also elaborated how the unemployment rate in the US was higher than in Europe in the 1950s and early 1960s nevertheless was significantly lower in the 1970s and 1980s.

Figure 7: Cycles and Employment
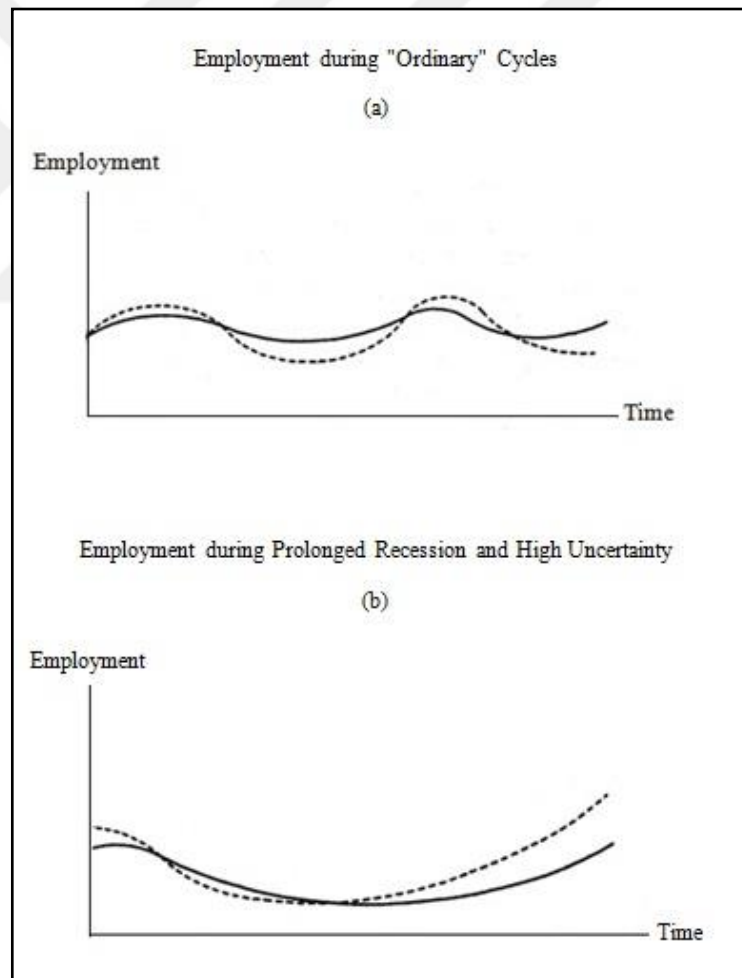
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[22] Ibid., p. 246.

2.2.1. Types of the Turnover Costs

Three distinct types of costs result from the insider-outsider turnover: (1) the costs of hiring and firing employees; (2) cooperation and harassment activities, these costs arise when insiders are willing to withdraw their cooperation with the entrants which diminishes the entrant's productivity or by damaging the entrants' personal relation with insiders which leads to an increase in the entrants' disutility; and (3) The effort- related labor turnover costs.

2.2.1.1. Hiring, Training, and Firing Costs

These are the most conspicuous labor turnover costs. They are divided into two main categories: Production-related turn over costs, and Rent-related labor turnover costs. *Production-related* costs aim to increase the productivity of the outsiders within the firm, this type of cost can be considered a part of the production process. For example, costs related to searching, hiring (such as recruiting, orientation, terminating, laying off and recalling), relocation and training costs, could be considered production-related costs. *Rent-related* costs can be considered as the outcome of insiders' rent-seeking activities. These come in many forms, such as severance pay, seniority rules and requirements of firms to give insiders advanced notice of dismissal, a lawsuits against dismissal, and other forms of legal protection against firing.[23]

Here, the concept of "labor as a quasi-fixed factor" is worth mentioning. Firstly, the quasi-fixed factor is defined as one whose employment cost is partially variable and partially fixed[24]. From the firm's point view, the labor is a quasi-factor, and it's composed of variable employment costs (wages and bill payments) for the productive services offered by workers plus fixed employment costs in hiring a specific stock of workers. The labor input is no longer only based on the correlation

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[23] Assar Lindbeck, Dennis J. Snower," Insiders versus Outsiders", **the Journal of Economic Perspectives**, vol. 15, No. 1, Winter 2001, p. 167.
[24] Walter Y.Oi, "Labor as Quasi-Fixed Factor", **The Journal of Political Economy**, vol.70, No.6, December 1962, p.539.

between wages and marginal value products but must also acknowledge the future course of these quantities. Therefore, firms started to see their fixed employment costs as an investment decision in the labor force.

Walter Y.Oi placed the fixed employment costs into two categories: hiring costs and training costs. Firms often invest in hiring to acquire particular workers, or invest in training workers to improve labor productivity.

"*Hiring costs are defined as those costs that have no effect on worker's productivity and include outlays for recruiting, processing payroll records, and for supplements such as unemployment compensation*."[25] Hiring costs are directly related to the number of new workers and indirectly to the flow of labor's services.

Training costs are investment in the human agent, specifically designed to improve worker's productivity.[26] Training activities can contain implicit costs such as involving experienced workers for training new comers and allocating unqualified workers during the training period.

Walter Oi emphasized if the net value of the firm, the present value of expected increment to marginal value product induced by training, exceeds the training expenses, then the investment in training will be profitable. Walter also emphasized that the type of training is just as important as the value of the investment in the training.

There are two types of training: general and specific training. General training is concerned with increasing the productivity of the worker in several competing employments such as training them to operate computers and basic programs. It is recognized that, due to the nature of this training, the worker may bear some of the training cost with the employer. This may be by accepting a lower wage than the one he could obtain from alternative employments. Specific training is the training that increases the productivity of the worker to a particular firm without affecting his productivity in alternative employments. This kind of training usually

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[25] Ibid.
[26] Ibid.

requires sufficient time so the worker would adapt to the firm's particular production, accounting and marketing processes.

Walter pointed out that the firm's rational behavior should be to focus on specific training. Suppose training was completely general; the total returns would be for the benefit of the worker. He could use the increase in his marginal productivity to increase his wage in the firm or to find other employment opportunities in other competing firms. In both cases, the net value of the training to the firm would be reduced to zero[27]. However if there were impediments such as imperfect knowledge or binding labor contract, the firm might be able to capture these returns. However, if the training was specific to the firm's needs, the worker's alternative marginal product remains unaffected. Therefore, the firm's return on this investment would exceed the training costs. It is thus irrational of the firm to underwrite completely general training. To achieve lower labor turnover costs, a firm needs to adopt a policy; where workers bear specific training costs and are at the same time rewarded by subsequent wage premiums. In such situations, both workers and firms would benefit.

The insider here has the ability to manipulate these costs and use them to increase his market power. Most of the labor turnover costs aim to secure the insider's position. In fact, the primary aim is to increase the insider's wage by discouraging the firm from hiring outsiders.

Lindbeck and Snower try to examine these costs by assuming that the "insiders" are the workers for whom all the hiring and training have been employed, and whose dismissal would trigger the full range of firing costs. On the other hand, Lindbeck and Snower assume that the "entrants" are associated with hiring costs. They also assume that the insider wage is set through the individualistic bargaining process, which means that the insider takes the wage and employment opportunities of all other insiders as given. This bargaining process is characterized by the

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[27] Ibid., p.540.

following: (1) each insider will capture some of the rent inherent in the hiring and firing costs, (2) the greater the rent, the greater the insider wage.

Following is a display of how the insider approaches exceeding the entrant wage by some positive amount. Of note, this amount should not be greater than the marginal firing costs:

$$W_E < W_I < (W_E+F) \tag{1}$$

Let (W_E) be the entrant wage, (W_I) be the insider wage and (F) be the marginal firing costs. Since the insider has some bargaining power then ($W_I > W_E$) and ($W_I <$ (W_E+F)). The insider knows that if the insider wage exceeds the upper bound, the firm will have the incentive to replace him by an outsider. The same mechanism can apply on the entrant and the outsider[28].

$$R < W_E < (R+H) \tag{2}$$

Let (R) be the outsider's reservation wage and (H) the marginal hiring and training costs. The entrant wage will exceed the outsider's reservation wage ($R < W_E$) by no more than the marginal hiring costs ($W_E < (R+H)$) or else the firm would have the incentive to employ another entrant.

Taking the macroeconomic level, while determining wage in this way and at these wages, the aggregate labor supply will exceed the aggregate labor demand. To examine whether the resultant unemployment is involuntary or not, Lindbeck and Snower assume that (A) represents the efficiency units of labor provided by each

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[28] Assar Lindbeck, Dennis J. Snower, **The Insider-Outsider Theory of Employment and Unemployment**, The MIT press, Cambridge, Massachusetts, 1988, p. 78.

insider and that (1) represents the efficiency units of labor provided by each entrant. where A>1. The rent-related costs here contain all the firing costs and the production-related costs contain the hiring and training costs.

$$(R+H) < (W_I/A) \tag{3}$$

Consequently, the outsiders are suffering from involuntary unemployment in a sense that the outsiders are arbitrarily exposed to more restricted opportunities than the insiders[29]. Furthermore, the insider will also face persistent unemployment since his reservation wage plus the marginal hiring and firing costs are greater than the insider wage, normalized for skill differences. Therefore, firms have no incentive to replace an insider with an outsider.

$$R+H+F > (W_I/A) \tag{4}$$

"There may be some outsiders who are willing to work for a wage that would make them more profitable than the insiders, if only they faced identical remuneration for identical labor services. Outsiders and insiders would face identical choice sets in this sense if outsiders were willing to work for less than the insider wage by an amount equal to the insider-outsider productivity differential plus the production-related turnover costs. However, the outsiders and insiders do not face identical face choice sets in this sense due to the rent-related turnover costs. Even if the insider-outsider wage differential exceeds the insider-outsider productivity differential plus the production related turnover costs, the firms may nevertheless be unwilling to replace their insiders by outsiders. This will happen whenever the insider-outsider wage differential falls short of total (production-related plus rent-related) turnover costs." [30]

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[29] Ibid.
[30] Ibid., pp.71-72.

Central conclusions of what have been mentioned above are that the outsiders suffer from involuntary unemployment because of the discrimination they face in the labor market due to the rent-related labor turnover costs. The absence of the equality reward for the same productivity level forces the outsider into the involuntary unemployment category or trapped in dead-end jobs although they are willing to work for less than insider wages[31].

2.2.1.2. Cooperation and Harassment Activities

The labor turnover costs can take on a wide variety of forms, including costs arising from insiders' attempts to protect their jobs, and inhibit wage underbidding and wage competition. One of the methods followed by insiders is increasing each other productivities in the production process through cooperation with other insiders and harassing new recruits, increasing their work disutility. Clearly, most of the turnover costs that relate to activities characterized by lack of cooperation and harassment are more visible in the team framework. "Cooperation and harassment activities do not occur automatically; rather, they lie within the control of the employees, especially the incumbents".[32]

Firstly, underbidding is defined as an agreement between the worker and the firm to perform a particular job at less than the prevailing wage. In practice, underbidding is not considered a preponderant feature of labor markets. Considering that, if the unemployed is willing and has the ability to attract jobs by offering to work for less than the prevailing wages, then the labor market could not suffer from any involuntary unemployment[33].

A widely accepted social norm plays a role in either having the incentive to underbid or accept the underbidding. Namely, those workers should not "steal" jobs from their fellow workers in agreement to work for lower wages, and that employers

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[31] Assar Lindbeck, Dennis J. Snower, "The Insider-Outsider Theory: A Survey", **The Institute for the Study of Labor**, IZA Discussion Paper No. 534, July 2002. P.4.
[32] Assar Lindbeck, Dennis J. Snower, **The Insider-Outsider Theory of Employment and Unemployment**, The MIT press, Cambridge, Massachusetts, 1988, p. 87.
[33] Ibid., p.65.

should not allow such "job theft"[34]. Consequently, wages become "fair wages" and they are independent of current demand and supply pressures in the labor market.

In the context of a free market economy, the employer has no incentive to accept lower wages from outsiders. This is because replacing an insider with an outsider, working for less than the prevailing wage, would lead the remaining insiders to withdraw their cooperation from the new outsider in the process of production. The unemployed worker has no incentive to underbid; because the insiders might withdraw their cooperation and harass the outsider. This results in reducing the productivity and increasing the reservation wages of the under-bidders. In other words, if the outsiders succeed in replacing one of the insiders, they expect unpleasant personal relations with and harassment by the remaining insiders.

In fact, the possibilities for pursuing cooperation and harassment generate economic rent in which insiders can exploit wage determination. Thereby, the insider can push the wage using the labor turnover costs that are associated with economic costs. As a result, the labor market would suffer from involuntary unemployment. In practice, workers who have been working for a long time in the firm are more capable of both cooperation and harassment activities, than newly employed individuals. While newly employed individuals need a sufficient period of time (i.e. initiation period) to start practicing these activities. Acquiring such ability to be helpful to your colleagues in the production process requires detailed knowledge on the on-going process; which requires sufficient time to obtain. Understanding and learning the administrative schemes, work schedules and the monitoring procedures related to harassment activities also takes time.

In general, the cooperation and harassment activities are associated with asymmetric information which means that these activities are thoroughly observed by workers who are actually involved more than the employer himself. Thus, the firm lacks the ability to fully monitor these activities. Firms often use the number and productivity of insiders and entrants as a measurement of wage decisions rather than depending on cooperation and harassment activities. Under these circumstances,

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[34]Assar Lindbeck, Dennis J. Snower, " Cooperation, Harassment, and Involuntary Unemployment:An Insider-Outsider Approach", **The American Economic Review**, vol. 78, No. 1 March 1988, pp. 167.

insiders can protect themselves from underbidding by being prepared to withdraw cooperation from the under-bidders. Thereby, cooperation and harassment activities underline the employer's incentive to refuse market clearing wage bids from outsiders, and the unemployed workers' incentive to refuse to underbid.

Cooperation activities refer to activities in which workers help one another in the process of production and thereby raise their productivity. As mentioned previously, the asymmetric information in the firm helps the insider gain some market power. Therefore, when the insiders cooperate with each other, rather than cooperating with entrants, the insiders' productivity only will increase. If the firm, however, decided to replace an insider with an entrant, the firm will bear the cost of losing revenue from reducing the productivity. This cost will be associated with economic rent, which will be divided between the firm and its insiders in the process of wage determination. Thus, the wage bargaining process may yield an insider wage higher than the reservation wage. Consequently, the firm has no incentive to fire insiders and recruit entrants instead.

A similar position can be found between the entrants and the outsiders. The entrants' wage would be above the reservation wage without encouraging the firm to replace outsiders for entrants. There are various reasons why this might happen; the following are the two major ones: (1) If the entrants within the firm start practicing cooperation activities among themselves and refuse to do so with the new comers (outsiders), hired by the firm, entrants' productivity will become greater than the outsiders' resulting in additional cost the firm will bear. However, if the firm decided to exchange an entrant for an insider, the entrant will then capture some of the available rent and their wage will be higher than the reservation wage. (2) Efficiency wage theory plays a role in setting the entrants wage above the reservation wage. Thus, the productivity gains from setting the entrant wage above the reservation wage would be greater than the labor cost associated with this increase. At the end, we can notice that the entrants' market power that makes them more privileged than

outsiders, is equal to the insiders' market power that makes them more privileged than entrants.[35]

For the same reason, workers who are laid off will not be able to regain their jobs by accepting the firm's offer of wage reduction. Especially if the firm is undergoing a business downturn and employees' are laid off in accordingly. In the case of accepting the offer the remaining incumbent employees can withdraw cooperation with them and their productivity would decrease. That results in compensating the firm for the decrease in productivity, by not having wages above the reservation wage.[36] Remaining employees seek to make this happen; aiming to protect their own wages. In conclusion, the lack of business prospects leads to layoffs rather than wage declines.

Harassment activities refer to activities whereby workers make each other's jobs more disagreeable; primarily by damaging their personal relations, and thereby raise disutility in their work. Here, too, insiders treat themselves differently from entrants and outsiders, gaining market power. By practicing harassment activities toward all workers except the insiders, the working utility of entrants and outsiders will become weaker and adverse. Consequently, the insiders try to increase the entrants' reservation wage and decrease their marginal product, whereby discouraging them from entering the firm and thereby the firm will tend to hire fewer entrants. Insiders can keep unemployed and laid-off workers from under-biding by creating a credible expectation; that under bidders will be harassed. As a result, outsiders have a higher reservation wage than insiders.[37] In case the outsider was able to avoid the harassment activities, he would be willing and able to do the insider's work for less than the insider's wage. Yet he does not have this option therefore, the outsider prefers to be unemployed rather than working at the reservation wage in addition to an inconvenient working environment.

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[35] Assar Lindbeck , Dennis J. Snower, "Cooperation, Harassment, and Involuntary Unemployment", **Institute for international Economic Studies,** Seminar paper No:321, April 1987, pp.7-9.
[36] Assar Lindbeck, Dennis J Snower," Wage setting, Unemployment, and Insider-Outsider Relations", **The American Economic Review**, vol. 76, No. 2, May 1986, p. 237.
[37] Ibid.

Usually, the firms face overpriced monitoring-cost which makes it impossible to monitor these harassment and cooperation activities perfectly. Under such circumstances, the insider exploits the situation to protect his position. He does so by preventing any underbidding attempts, through withdrawing cooperation from the under bidders or by damaging his personal relationship with the under bidders thereby decreasing productivity level of entrants. It is assumed that individualistic bargaining processes determine the wage and that the insider can engage in cooperative activities in which the entrants can't. Entrant receives the reservation wage,

$$W_E = R \qquad\qquad (1)$$

Let (a_I) be the efficiency units provided by each insider, given the cooperation among insiders, and (a_E) be the efficiency units provided by each entrant, given the cooperation between insiders and entrants $(0 \leq a_I, a_E \leq 1)$. The insider wage will exceed the reservation wage by some positive factor but at the same time, this wage level should not exceed the differential in the efficiency units of labor provided by the insiders and entrants.[38]

$$R \leq W_I \leq R.(a_I/a_E) \qquad\qquad (2)$$

It is in the insiders' interest to increase the efficiency differential as much as possible. And they do so by cooperating with one another, and by refusing to cooperate with the entrants. In other words, the insider optimal level of cooperation is when $(a_I)^* = \max(a_I)$ and $(a_E)^* = \min(a_E)$, so that $(a_I)^* = A$ and $(a_E)^* = 1$, therefore the previous condition becomes[39] as follows

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[38] Ibid., p.80.
[39] Ibid., p.95.

$$R \leq W_I \leq R.A \tag{3}$$

In the case of a business downturn, the firm will be forced to lay-off a number of its workers. Despite the fact that laid-off workers have an incentive to underbid their wage levels, they have difficulty retaining their jobs. Mainly because the remaining insiders believe that it is in their best interest to withdraw the cooperation from the laid-off workers to prevent wage underbidding.

As for harassment activities, the firm lacks the capability to monitor such activities among workers in order to have an objective and complete information. Therefore, employees are free to decide how friendly or unfriendly they need to be with their colleagues. The insiders aim to keep laid-off employees and outsiders from underbidding, by practicing some of the harassment activities, and by creating these credibility expectations that under-bidders will suffer from harassment activities. This results in maximizing the entrant's reservation wage. In other words, the insider wage will be greater than the insider reservation wage; however, it will not exceed the entrant's reservation wage.

$$R_I < W_I \leq R_E \tag{4}$$

This will discourage entrants to enter the firm and lead to hiring a minimal number of entrants. The outsider would be willing to do the insider's work for less than the insider's wage if no harassment was guaranteed. Unfortunately, outsiders do not have such option. At the end, we can conclude that the outsiders' choice is less favorable than that of the insiders. Therefore, the economy suffers from involuntary unemployment.

2.2.1.3. The Effort-Related Labor Turnover Cost

A different source of labor turnover costs is the effect of job security on the effort. Firms affect their employees' job security and work effort by changing the labor turnover rate; the rate at which outsiders replace insiders. Thus, labor turnover rate has an adverse effect on workers' morale. As a result, the work effort and productivity levels decrease. It is worth mentioning that there is a difference between the "microeconomics" and "macroeconomics" job security. The former is related to the rate at which the firm fires employees, probably replacing them with new entrants. The latter is related to the probability of finding a new job. The microeconomics definition will be used in the following explanations.

As assumed in the efficiency wage theories, the firm cannot directly observe the work effort of each employee within the firm. Therefore, wage decisions cannot be made depending on the provided effort. The firm instead uses the produced output level to infer the average relation between the job security and the workers' effort. The employer sets a 'production target' and the worker whose output falls short of it is either fired or detained. Therefore, the ratio between the employees' effort and the associated output is to be lagged.

For explaining the relation between the turnover rate and effort, it is assumed that if the current labor remuneration is related to workers' past effort performance, then a rise in a firm's rate of labor turnover reduces its employees' expected future effort-reward. This reduction in the effort-reward has two effects on effort; substitution effect and income effect. The substitution effect: the greater the reward, the greater the effort input. Therefore, the employee who is unlikely to receive a reward for his current efforts has the incentive to work less. On the other hand, the income effect pulls in the opposite direction. Thus, the greater the reward, the greater the expected income and the more leisure and the less effort the worker can afford to

enjoy[40]. The reduced risk of losing the job increases the worker's expected income, therefore, the worker will work less. In case the substitution effect dominates the income effect, then the firm would bear an effort-related cost of labor turnover costs.

The firm tries to set its labor turnover rate so that the effort cost of turnover is equal to the insider entrant wage differential:

$$e' = W_I - W_E$$

Consequently, the greater the insider wage, the greater the firm's turnover cost and the smaller the firm's demand for insiders.[41] Within this context, the insider tries to negotiate his wage, through which the insider gains some economic rent that is associated with the effort-related turnover costs. Usually, insiders and outsiders differ in competitive positions. Nevertheless, if the outsider had an employment opportunity without affecting the work incentive of the insider, the outsider can perform the same job as the insiders and even with less wage level. Unfortunately, this option is not available to outsiders.

2.2.2. Do Turnover Costs Protect Insiders?

Insiders have very limited possibilities for appropriating the full rent associated with turnover costs, since the higher the rent to insiders, the more are outsiders willing to underbid today to enjoy insider status tomorrow.[42] Vetter and Andersen assumed that the higher the economic rents, the higher the incentives for

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[40]Assar Lindbeck, Dennis J. Snower, **The Insider-Outsider Theory of Employment and Unemployment**, The MIT press, Cambridge, Massachusetts, 1988, p. 87.

[41] Assar Lindbeck, Dennis J Snower," Wage setting, Unemployment, and Insider-Outsider Relations", **The American Economic Review**, vol. 76, No. 2, May 1986, p.82.

[42] Henrik Vetter, Torben M. Andersen, "Do Turnover Costs Protect Insiders?", **The Economic Journal**, vol. 104, No. 422, January 1994, p.124.

the outsider to reach the insider status and to under-bid his wage. Therefore, they tried to examine the relationship between the insiders' wages and the entrants' wages through the rent that the insider can extract from exogenous training and hiring costs. In other words, they examined the indirect impact of the labor turnover costs on the employment decisions. Vetter and Andersen analyzed the dynamic consequences of turnover cost, and the result of their study led to a different result than that of static insider-outsider models. They found that the higher the rent to insiders, the more the outsiders would be willing to under-bid today to enjoy insider status tomorrow.

They started with a two-period insider-outsider model with turnover costs. In each period, there are two groups of labor; a number of the incumbent workers (insiders) expressed by (I_t) and a large number of outsiders. They assumed that there is a qualifications gap between the two groups. This gap, however, can be shrunk if the outsider was able to gain these qualifications at an exogenous cost (*t*). These exogenous costs are associated with training and hiring activities, consequently, the insider and outsider are considered as perfect substitutes up to the training costs. Job-specific skills are maintained and protected by continuous employment but lost whenever unemployment takes place. The *(b)* will be denoted for the reservation wage which is identical for all workers. Aiming to have a better focus on the interplay between insiders and outsiders, Vetter and Andersen preferred to take the simplest labor demand model by assuming a labor demand function depending on the wage *(w)*.

$$L(w), \quad L'(w) < 0. \tag{1}$$

In each period, the insider determines the wage, taking into account its present and future implications. In fact, the main objective of the insider is to push the wage above the reservation wage but also maintain jobs for all workers belonging to the insider group, even in each period, the insider takes the willingness of the outsider to underbid into consideration. This insider group is donated by ($I_t = L_{t-1}$),

which presents those who had been employed in the previous period. Let (L_{t-1}) be the employment level in the previous period[43]. Regarding the payment for the employed outsiders, it will be expressed as *(w-t)*, as the firm pays the training costs. And in each period, the firm attempts to make its employment decision depending on the labor demand function, equation (1). To examine this sequential wage setting process, I start off by considering wages and employment determination in the first period.

In the first period, the insider strives to get paid at the highest wage level possible. This means, exceeding the reservation wage. While maintaining jobs to the entire members of the insider group, and within the context of these restrictions, the highest wage rate is:

$$
w_1 = \begin{cases} L^{-1}(I_1) & \text{for } L_1 < L^{**}, \\ b & \text{for } L_1 > L^{**}. \end{cases} \tag{2}
$$

Let (L^{**}) be the employment at the wage *[w=b];* where wage equals the reservation wage. The insider wage will be constrained by the number of insiders. If the number of insiders in the first period is smaller than the employment at that period, the insiders are then paid at the maximal wage level they aim to have $[w = L^{-1}(I_1)]$, this maximal wage is found from the labor demand function. However, if the number of the insiders is bigger than the employment level, insiders aim to maintain the jobs of the entire insider group. Therefore, they will set their wages to reservation wage level *[w=b];* fearing of replacing insider by outsider aiming to prevent any insiders dismissal actions, because the outsider is willing to work at the reservation wage.

However in the second period, the wage and unemployment depend on the number of insiders; the insider prefers to have a wage above the reservation wage

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[43] Ibid., p.125.

(b), and any amount under the reservation wage can be considered as unattractive. The maximal wage the insider can acquire is L^{-1} (I_2) where $I_2=L_1$ (insiders in the second period equal the employment level in the first period). Let (L^*) be the employment at the wage $w = b + t$; where wage equals the reservation wage plus the exogenous costs and this wage level is the objective of the outsider in the second period. As has been mentioned (L^{**}) is the employment at the wage $w=b$.

$$w_2 = \begin{cases} b+t & \text{if} \quad I_2 \leq L^* \quad \text{and} \quad L_2 \geq I_2 = L_1, \\ L^{-1}\ (I_2) & \text{if} \quad L^{**} > I^2 > L^* \quad \text{and} \quad I_2 = L_2 = L_1, \\ b & \text{if} \quad I_2 \geq L^{**} \quad \text{and} \quad L_2 \leq I_2 = L_1. \end{cases} \qquad (3)$$

Note in equation (3) when the number of insiders has a "medium" size $(L^{**} \geq I_2 \geq L^*)$ employment does not change between the first and second period and insiders will gain the maximal wage they aim to have. If, however, the number of insiders is "small" $(I_2 \leq L^*)$, outsiders will have a better chance of getting employed, and the insider wage will be $w = b + t$ (wage equals the reservation wage plus the exogenous costs) and this wage level is the objective of the outsider in the second period. Finally, if the firm has a "big" group of insiders $(I_2 \geq L^{**})$, some insiders might face the possibility of unemployment because the wage will be at the reservation wage level. This wage can be considered as an unattractive wage to the insider[44].

In fact, this wage outcome might be an incentive for the outsiders to underbid or to work on getting the insider status. Outsiders take into account (1) the reservation wage in the first period, and (2) the future earnings that they could attain as an insider by looking at the insider wage level in the second period. Therefore, it is worthwhile for the outsider to bid for a job because he expects the final sum of the current bid wage in the first period (w_1^*) and the insider wage in the second period (w_2) to exceed the sum of the reservation wages in the first and second periods.

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[44] Ibid., p.126.

$$w_1{}^* + w_2 \geq 2b \qquad\qquad\qquad\qquad (4)$$

According to the outsider; if the second-period wage is high, it is then acceptable for him to work for a low wage at the beginning. The outsider is then investing in the insider status in the long run. As for the second period, employed outsiders will be willing to work at a wage level higher than the reservation wage *(b)*. Taking that into consideration that, a wage higher than *(b+t)* for the insiders is not feasible since it might lead to their substitution by outsiders.

The lowest wage that the outsider would be willing to accept in the first period depends also on the number of the second-period insiders. If the employment at wage *(b+t)* is bigger than the number of insiders in the first period $(I_1 \leq L^*)$, the outsider finds the insider wage attractive at wages equal to or exceeding *(b-t)*. Therefore, the insider appropriates a rent (*t*), and the outsider is willing to pay this rent in terms of lower wages in the first period, and in hopes to obtain the insider status in the future. When the number of the insiders in the first period is bigger than the employment at wage *(b)* in the second period $(I_1 \geq L^{**})$, outsiders require a reservation wage to start working. And since the insider wage is already at the reservation wage level, the outsider does not find it worthwhile to bid his wage for the insider status in the second period.

Finally, we conclude from these two-period models that the possibility to extract rents from the exogenous turnover costs (such as hiring and training costs) is restricted by the fact that the higher the rents, the more aggressively outsiders bid to achieve insider status in the future. On the long-run the insiders' power will be reduced because after a certain wage level the firm prefers to replace insiders due to the high wage level they demand , which would raise the number of outsiders, therefore the employment level shall increase.

2.2.3 The Insider and Outsider Substitutability and the Labor Turnover Costs

In the presence of unemployment, labor turnover costs play a critical role in the wage bargaining process. Labor turnover costs are the vital sources of employees' bargaining power. On this account, if such costs did not exist, the employees, particularly the insider employees, could not have any market power. Thus, if they claim a wage higher than their reservation wage level, their employers could replace them, without any cost, by unemployed job seekers. This section sheds light on how labor turnover costs determine the firm's degree of substitutability between two alternative sets of wage negotiations with the insiders and outsiders. How the turnover costs determine the degree of interdependence between the firm-insider bargains and the firm-outsider bargains.

Paola Manzini and Dennis J Snower emphasized how labor turnover costs have influence on the wage negotiation process[45]. They also pointed out the two bargain sets (firm-insider and firm-outsider) are temporal processes, consuming time that could have been spent on production. It is assumed that the firing cost and the insider-outsider productivity differentials are the main forms for the labor turnover costs. As we have mentioned in the previous section, the labor turnover costs determined three types of workers:

The *insider,* whose position is associated with a firing cost φ, (φ, is a positive constant). The insider produces an output of (1) per period when there is bargaining agreement. The *entrant,* who has just been hired, is not associated with a firing cost. The entrant produces an output of $(1-\alpha)$ when there is bargaining agreement (α, is a constant, $0 \leq \alpha \leq 1$). The *outsider:* the unemployed worker, and a perfect competitor for the available jobs. After the outsider gets a position in the firm, he gains the entrant status for the "initiation period". The entrant is employed on a temporary contract. After finishing the "initiation period", the firm decides whether to keep the

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[45] That is, by determining the firm's degree of substitutability between its bargains with insiders and outsiders.

entrant within the company work force or to replace him with another entrant. In case the firm decided to keep him, the entrant becomes an insider. Meaning, firstly, his productivity should increase from ($1-\alpha$) to (1). Secondly, his new position will be associated with the firing cost (φ) as the other insiders, which will be paid by the firm in case a dismissal situation takes place. Thirdly, and based on the previous two points, his wage is renegotiated[46].

The following structured game illustrates the three types of workers and the employment decision within a firm. The game contains three sub-games. The first sub-game (G^O): exhibits when the firm starts bargaining with an outsider *(O)*, and if they reached an agreement, the outsider becomes an entrant *(E)*; The second sub-game (G^E): exhibits when the firm makes a decision about retaining the entrant or replace the entrant; The third sub-game (G^I): exhibits when the firm starts bargaining with an insider *(I)*.

Figure 8: Structure of the Game
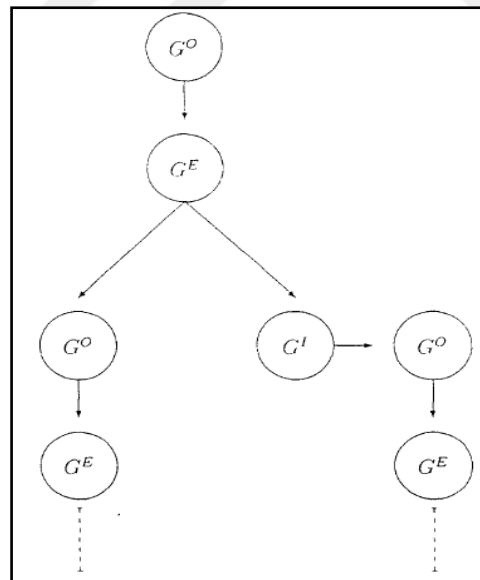
Source: Paola Manzini and Dennis J Snower, "On the foundations of wage bargaining", **Centre for Economic Policy Research**, Discussion Paper No. 1514, November 1996, p.5.

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[46] Assar Lindbeck, Dennis J Snower," Wage setting, Unemployment, and Insider-Outsider Relations", **The American Economic Association**, Seminar paper No.344, May 1985, p.5.

In Figure 9, the first sub-game is the outsider sub-game (G^O), bargaining between the firm and the outsider (O). If an agreement is reached, the outsider becomes an entrant. Followed by the second sub-game which is the entrant sub-game (G^E) bargaining between the firm and the entrant. If the firm decides to replace the entrant, the firm will search for another entrant, thus, the firm will move to another outsider sub-game (G^O). However, if the firm decides to hire the entrant, the firm shall move to an insider sub-game (G^I) between the firm and the insider. If the firm decides to fire the insider, the firm will move to another outsider sub-game (G^O), and so on. The following discussion will examine the structure of each sub-game.

In each set of negotiations the firm and the worker exchange alternative wage proposals and the firm has the choice to terminate the relationship with the insider worker and turn to another prospective employee. Failure to reach agreement entails that no revenue is gained for that period[47].

As figure 9 shows, in sub-game (G^O), the firm (denoted by *(F)* in the triangle) proposed a wage offer to the outsider at the time (*t*). If the proposal is accepted (action denoted by (*a*) in the figure), the negotiations between the firm and outsider move to sub-game *(G^E)*. Here, the firm attempts to make a decision; whether to retain the entrant or to replace him with another entrant. However, if the proposal is rejected (action is denoted by (*r*) in the figure), the outsider (denoted by *(O)* in the triangle) would make a counter proposal at the time (*t+1*). If the proposal, at that time, is accepted, the negotiations would move to the sub-game (G^E). Once again, if the proposal is rejected, the firm can switch and start the negotiations with another outsider (*O'*), without bearing the cost (action denoted by (*S*) in the figure). This takes place in period (t-1). In the period *(t+2)*, the firm can make a counter offer to the original outsider and so on.

In sub-game *(G^E)*, if the firm made a decision to retain the entrant and allow him to renegotiate his wage as an insider, the game proceeds to a sub-game *(G^I)*.

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[47] Within each type of sub-game one should distinguish between sub-games starting with an offer by the firm and sub-games starting with an offer by the worker. However, in what follows we always refer to sub-games starting with an offer by the firm, so that no confusion should arise.

However, if the firm makes a decision to replace the entrant, the game will move to sub-game *(G^O)* to bargain with another outsider.

In sub-game *(G^I),* at the time *(t'),* the firm offers the insider (denoted by *(I)* in the triangle) a wage level. If the insider accepts *(a),* we can then consider the insider wage established, and the game ends. However, if the proposal is rejected *(r),* the insider will make a counter proposal in *(t'+1)* time. Once again, if the offer is accepted, the game will end. If rejected, the firm needs to decide whether to fire *(F)* the insider. The firm must then pay the firing costs *(φ),* and thereby move to sub-game *(G^O)* to replace the fired insider by an outsider, or to make a counter offer in the period *(t'+1)* and so on.

Figure 9: Structure of the Sub-Games
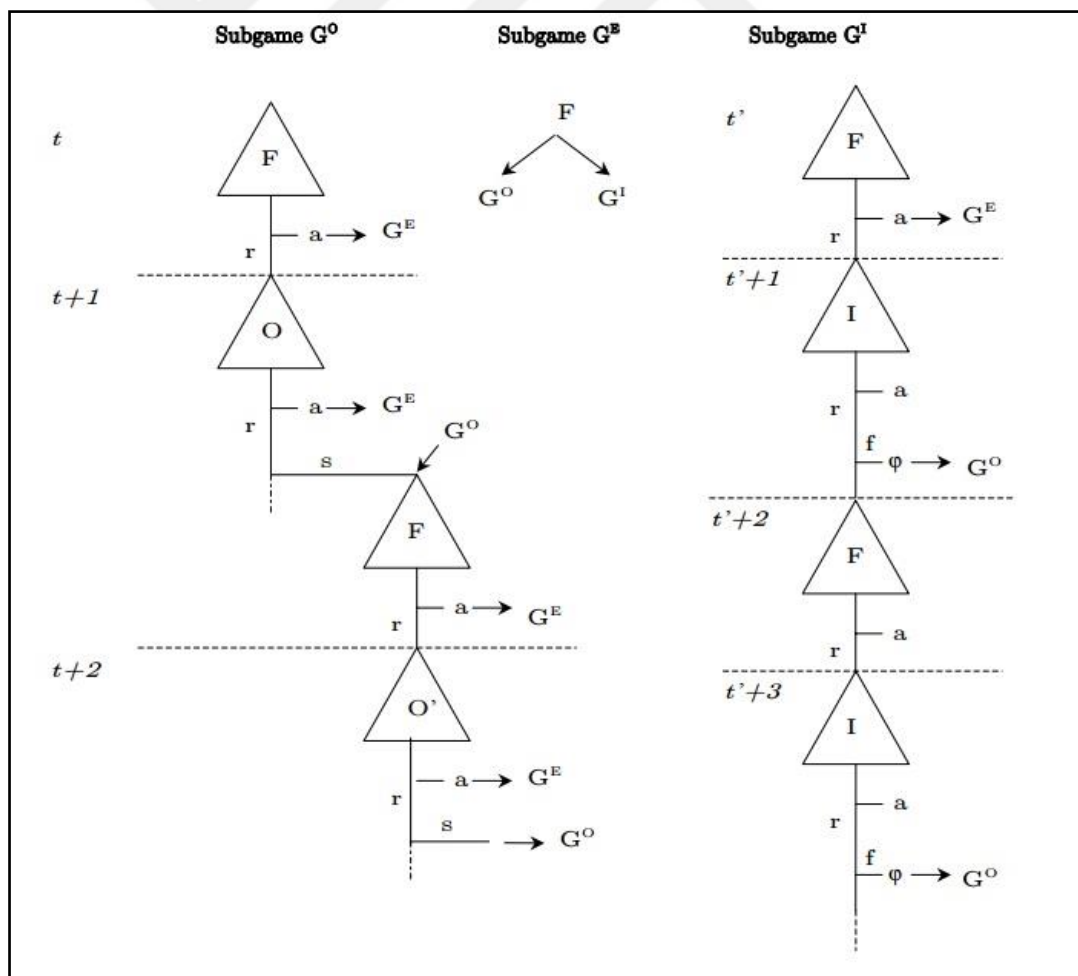
Summarizing the outcome of this game, the two labor turnover costs (the insider-entrant productivity differential (α) and the firing cost (φ)) have different impacts on the wage negotiations since these LTCs can determine the relative profitability of the insiders and entrants.

When deciding whether to hire or replace an entrant, the firm faces a tradeoff between sacrificing one of two: bargaining power or productivity. (a) ''*Bonding*'', takes place when the entrant is hired, making him an insider. Thus, in the wage negotiations, the firm loses the bargaining power to the insider since the firing costs protect the insider's position. The firm also gains a more productive employee. (b) ''*Churning*'' or ''*Revolving Door*'' refers to cases where the firm decides to fire the entrant and replace him with another. Where the firm sacrifices productivity because the entrant is less productive than the insider, however, doesn't lose any market power[48].

The size of the firing cost determines the loss of bargaining power. Whereas the size of the insider-entrant productivity differential determines the productivity gain. In case the insider-entrant productivity differential is sufficiently high relative to the firing cost then there will be bonding. Consequently, the firm gains much more from retaining the entrant and loses much less in bargaining power. Otherwise, if the insider-entrant differential will be low, there will be "revolving door" or "churning".

The impact of the firing cost: (a) if the firing cost is sufficiently high relative to the productivity differential, the entry to the firm is then "blockaded". Therefore, the firm's negotiations with the insider become a bilateral monopoly problem, and the firm will not find it reasonable to fire the insider when the wage is at the bilateral monopoly[49] outcome. However (b) if the firing cost is sufficiently low relative to the insider-entrant productivity differential, the entry is then "restricted". Therefore, the

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[48] Ibid., pp.10-12.
[49] It is concept about a market that has only one supplier and one buyer. The one supplier will tend to act as a monopoly power, and look to charge high prices to the one buyer. The lone buyer will look towards paying a price that is as low as possible. Since both parties have conflicting goals, the two sides must negotiate based on the relative bargaining power of each, with a final price settling in between the two sides' points of maximum profit.

firm has an incentive to fire its insider unless the latter accepts a wage below the bilateral monopoly outcome. Knowing this, the insider sets his wage as high as possible without inducing firing.

The labor turnover costs can be seen here as an entry barrier; making it difficult for labors to enter the labor market. There are no barriers to enter or exit the market. The labor market can be perfectly contestable when there are no labor turnover costs. In that context, the wage will be at the competitive level because of the entry barrier. And in situations where the insiders are claiming wages above the competitive level, the entrants will have the chance to enter the labor market. Entrants will also underbid the wages, the outcome of which would turn the insider wage equal to the reservation wage of the marginal entrant. In reality, however, the labor market is imperfectly contestable, and the insiders earn more than the competitive wage. It is the same dilemma for imperfectly competitive firms in the product market that charge more than the competitive price.

On this account, we conclude that the insider-entrant productivity differentials and the firing cost jointly determine the profitability of entrants relative to insiders, and consequently the degree of substitutability between alternative bargains for the firm. Therefore, we consider the following relations as a summary of the degree of substitutability between the insider and outsider that is determined by the labor turnover costs (the insider-entrant productivity differential (α) and the firing cost (φ): (1) If the labor turnover costs (*ceteris paribus*) of the firm are remarkably high, then both the firm and the insider have monopoly power. (2) If the labor turnover costs (*ceteris paribus*) of the firm are considered small then it is more profitable for the firm to start the bargaining with the outsider instead of bargaining with the insiders. (3) In the case of having zero labor turnover costs, we have perfect substitutes between the insider and outsider, and the wage of the insider will be modified based on the reservation wage of the marginal worker. Between these two extremes, the market power which insiders have may be regarded as rising with labor turnover costs**.** [50]

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[50] Assar Lindbeck, Dennis J. Snower," Insiders versus Outsiders", **The Journal of Economic Perspectives**, vol. 15, No. 1, Winter, 2001, p. 168.

CHAPTER THREE

THE ROLE OF TRADE UNIONS PREFERENCES IN THE INSIDER-OUTSIDER THEORY

What gives unions their power? And why won't firms ignore the union's demand and switch to non-unionized workers instead? The insider-outsider theory tries to outline the source of the unions' clout and how union activities contribute to unemployment. The main assumption here is that the unions are more concerned with the interests of their employed members rather than unemployed ones.

Trade union is a lively area in the labor economics; many economists are becoming interested in this area. The union's main function is to maximize the welfare of their members. In fact these members are assumed to be homogenous, which allows the establishment of a straightforward relationship between the welfare function of the union and the union members. Aiming to understand the impact of labor unions on employment and wages, economists have developed models of collective bargaining that consider an environment with a firm that is able to make positive profits and a union that negotiates for all employees.

"If the union's monopoly power in the labor market is significantly larger than the firm's monopsony power, then the union will dominate the wage-setting process. Yet if the firm and union have comparable strength, then the firm may have more discretion in accepting or rejecting the union's wage proposal"[1]

There are two dominating models of wage determination for the unionized sector of the economy. The first model is the Monopoly Model; it is the oldest model of trade union proposed by John Dunlop. This model assumes that the union sets the wage where unions behave as monopolist seller of labor, and the firms

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[1] Assar Lindbeck, Dennis J Snower, **The Insider-Outsider Theory of Employment and Unemployment**, The MIT press, Cambridge, Massachusetts, 1988, p.174.

choose the profit maximizing employment level. The second model is the Efficient Bargain Model proposed by McDonald and Solow; it assumes that both the firm and the union can jointly bargain over the wage and employment decisions. In this case, the union may be viewed as maximizing its utility function subject to a profit function.

3.1. Acknowledging the Differences between Insiders and Outsiders within the Trade Unions

Most of the widely used microeconomics models of the unions ignore the distinction between inside and outside workers. Carruth and Oswald designed a model that acknowledges the difference between workers inside and outside the trade union[2]. The model aims to compensate the weakness in the conventional approach, which usually facilitates a union utility function valid for a specific range of employment levels, which are more or less equal to membership. The general union utility function can be written as following:

$$U = nu\ (w) + (m - n).\ u(b) \hspace{2cm} (1)$$

Where (w) is the wage rate, (b) is unemployment benefit or an alternative wage, (n) is employment, (m) is union membership and (u.) is the individual worker's utility function.[3] Yet whenever employment (n) is greater than the union membership (m), the aforementioned equation will be complicated and the utility function will be unspecified. Therefore, Carruth and Oswald developed the following alternative form:

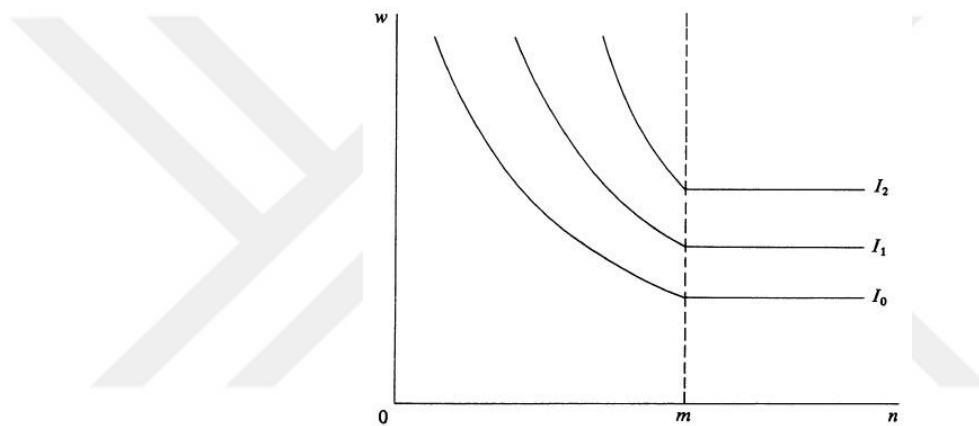$$U = mu\ (w) + [u(b) - u(w)] \hspace{2cm} (2)$$

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[2] Alan A. Carruth, Andrew J. Oswald, "On Union Preferences and Labour Market Models: Insiders and Outsiders", **The Economic Journal**, vol. 97, No. 386, June 1987, pp. 431-445.
[3] Functions like these are used in, for example, Ashenfelter and Brown (1986), Card (1986), Grout (1984), McDonald and Solow (1981), Oswald (1982) and Sampson (1983).

Once all labors in the trade union have jobs, the trade union tends to switch its attention from incrementing the employment level to incrementing its members' wage rate. This can be viewed within the context of the insider-outsider model, where insiders (union members) ignore the preferences of outsiders (union non-members) in the negotiation of wages and employment. Figure (10) illustrates the union utility function.

Figure 10: The Union Utility Function

Source: Alan A. Carruth, Andrew J. Oswald, " On Union Preferences and Labour Market Models: Insiders and Outsiders", **The Economic Journal**, vol. 97, No. 386, June 1987, p. 434.

The union's indifference curves are denoted I_0, I_1 and I_2. When the employment level is less than the insider membership, the curves take a downward-sloping behavior in the wage-employment space, which reflects the willingness of the union to trade off wages for employment. However, at an employment level equal to current membership, the indifference curves of the trade union become kinked. Indicating all members of the trade union have jobs. Then, when employment exceeds the insider membership, indifference curves become flat, reflecting the insider's lack of concern towards the outsider's interest[4]. And because the trade union no longer attaches any weight to its employment goal, the union

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[4] David Begg, et.al., "Symmetric And Asymmetric Persistence Of Labor Market Shocks", **Journal of the Japanese and International Economies**, December 1989, p.562.

becomes more concerned with the task of raising the wage rate earned by its members. Thus, whenever the aggregate products demand increase the labor demand will consequently increase, and the union will take the demand increase as an extra remuneration. This shows the little incentive the insiders have to allow in outsiders, and consequently the employment rigidity labor market will suffer. Carruth and Oswald however, argued that even in cases where "fair wage rule" applies; where all workers get paid the same wage level, i.e. outsiders get paid as much as insiders, once an economic boom takes place, it is in the insiders interest to let employment grow further than the size of the insiders' group.

> "This is because sufficiently high product prices make it feasible for both insiders and the firm to profit from an expansion of employment above current membership. It is not always optimal for insiders to take demand increases solely in the form of pay increases." [5]

To explain the idea and display it's consistency with wage rigidity, Carruth and Oswald derived two-step wage preference paths. The diagram in Figure (11) shows how wage and employment levels alter as the product price or productivity rises. Figure (11) describes what happens if the economy faces an increase in the relative output price or productivity; the pay (w) remains constant and employment (m) increases as unemployed insiders find work. The employment sticks for a period of time with all insiders employed, as insiders take the aggregate products demand solely as extra remuneration. In other words, insiders translate the demand gains into pure wage rises. Finally, insiders allow employment to grow again as it becomes in their interest to allow outsiders, and the employment return once more to a rigid and (now higher) wage rate.[6]

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[5] Alan A. Carruth, Andrew J. Oswald, " On Union Preferences and Labour Market Models: Insiders and Outsiders", **The Economic Journal**, vol. 97, No. 386, June 1987, p.432.
[6] Note that these results are obtained under the assumption that the union does not care about nonmembers.

Figure 11: A Two-Step Wage Preference Path
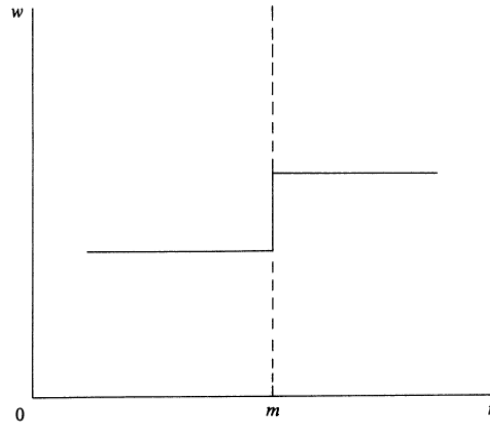
"The "union membership effect" (whereby the wage-employment response to a shock depends on whether employment is greater or less than union membership) may well be met by countervailing influences that are at least as strong: not only may unions regard recently laid-off members as near-insiders, but union leaders may also regard a rise in membership as an advantage per se, since it raises membership fees and perhaps also the prestige and political power of the union"[7].

Yet, it is natural to emphasize the role of union consisting of only insiders, since insiders has more market power than outsiders, and as union empowers the insider position in the labor market. A union strengthens the insider's bargaining power, magnifies the costs of replacing an insider with an outsider, and provides the insiders with an additional set of rent-seeking devices, such as the strike threat and the work to rule threat. The following section is dedicated to study these rent seeking devices in depth.

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[7] Ibid.

3.2. Union Activities and Their Effect on Employment

Union activity refers to any activity that workers perform in unison in order to achieve an outcome that they could not have achieved individually. Unions aim to maximize the utility function of their members through raising the firms' labor turnover costs; and thereby raise union members' expected income. This is by providing insiders with new rent-seeking tools such as threats of strike and work-to-rule. These activities increase the insiders' bargaining power, which results in capturing a greater share of the available rent from their jobs. In fact, the wage determination process can no longer be explained through the maximization of union utility subject to the labor demand function or profit function. The union's ability to inflict damage on the firms[8] should be taken also into consideration. [9]

First, *the work to rule threat*, this threat is considered an "employer disciplining device". The work to rule device is another rationale for unionization. The assumption is that workers do not withdraw their labor. Instead, they stay on their jobs but drastically slow down the production process by punctilious adherence to a narrow interpretation of work rules included in the collective bargaining agreement. This threat can only be operative when the firm is able to observe a particular minimum effort level that can be monitored, such as a worker's interaction with a machine. Whereas effort in excess of the minimum level, such as the worker's degree of concentration, accuracy, or delicacy, is out of the company's ability to measure due to it is prohibitive cost[10].

In practice if all union members are able to retain their jobs and will provide a level higher than the minimum level of effort. However, in case one of the members gets fired, most of the remaining workers will probably work to rule which means they will work at the minimum effort level[11]. Under this assumption workers

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[8] This damage can be expressed by the profits forgone, while observing the strike. it is called the "union punch".

[9] Assar Lindbeck, Dennis J Snower, **The Insider-Outsider Theory of Employment and Unemployment**, The MIT press, Cambridge, Massachusetts, 1988, p.182.

[10] Ibid., p.198.

[11] Ibid.

will use their effort as an "employer disciplining device" to protect their jobs by slowing down the production process and the firm will bear the cost of this slowdown. Finally, if all insiders unionize to issue work to rule threat, the insider wage and the level of involuntary unemployment will be higher than when they do so atomistically.

Second, the strike threat, one of the activities supported and empowered by the trade unions that induce firms to rethink firing decisions of unionized employees. The LTCs play an important role in explaining the strike and lockout threat. Since whenever LTCs are high, the firm feels obligated to offer wage concessions to their unionized employees. Worthy of mentioning; unionized employees are fully aware of the fact that the labor turnover costs can be used to support and increase their wages.

Whenever the firm rejects the union's wage proposal, the strike threat is portrayed as a "wage-preserving device", where the union might incite the unionized employees to strike. Then, depending on the cost the firm will bear, the firm makes a decision whether to bear the strike costs (the profits foregone on account of the strike), or the unionized employees replacement costs. "The greater the profit forgone as result of the strike, the greater the maximum wage that the firm will accept."[12] In most cases the latter costs are larger than the former cost, where the firm is compelled to negotiate with the strikers while keeping their jobs vacant.

The strike threat function is also perceived as a "job-preserving device". Consequently, after the union's wage claim, the firm's decision to fire union members triggers to call on a strike. The firm trades off between holding the strikers' positions vacant and replacing them by entrants. In this sense, the strike is seen as an instrument for providing job security, since the higher the cost of the insiders replacement the fewer the insider will be replaced by any given wage.

It is the union's duty to set a wage level that is as high as possible, and is subject to two constraints: the cash flow constraint and the firing-hiring constraint. In

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[12] Ibid., p.173.

a sense, the wage should not be high enough for the firm to have a negative cash flow (W_{CF}). Which could force it to close its operations attributed to the lockout decision it's likely to make if the union members strike after the rejection of the union's wage proposal. As for the firing-hiring constraint, the wage should not be so high, otherwise the firm considers that firing the insider and hiring an outsider at the reservation wage level is in its best interest[13]. However the wage that the insiders actually demand is:

$$W_I = min\ (W_{CF}, W_{FH})$$

That is, the union's wage proposal for the insiders (W_I) will be more acceptable by the firm if the wage level corresponds to the cash flow constraint (W_{CF}), and the firing-hiring constraint (W_{FH}). Nevertheless, whether the strike threat is seen as "wage-preserving device" or "job-preserving device", the strike threat can be seen as an instrument whoes main aim is to increase the insider wage. Because the greater the job security the higher the demanded wages by the unions.

Union imposes an implicit contract on the firm, which indirectly states that should the firm retain all the union members there will be no strike. Nevertheless if one of the union members gets fired the probability that most of the remaining members will strike is high. Assar and Snower illustrated the interaction between workers and the firm in a sequence of events in the following figure.

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[13] Ibid., p.80.

Figure 12: The Sequence of Wage-Setting, Strike and Employment Decisions
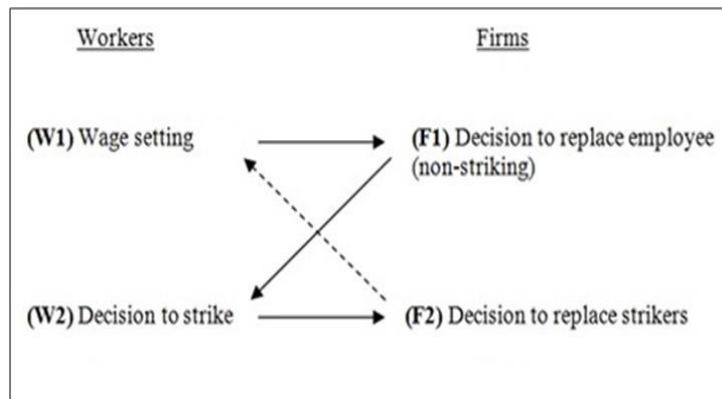
At decision (W1) workers set their wages, it is assumed that all the employees in the union set the same wage level. At decision (F1) the firm decides whether to replace non-striking insiders. At decision (W2) the remaining workers decide to strike after one of the insiders has been replaced. At decision (F2) the firm tries to take a decision whether to replace all strikers. Based on decision (F1) and (F2), wages will be reset by workers or the strike continues. The outcome can be stretched into three cases: (1) the strike wins and employees who got fired are rehired at the insider wage; (2) the firm wins which means the ones who were fired will not return to their original jobs; (3) the strike continues.

Through their examination of the insider-outsider theory, Lindbeck and Snower focused intensely on one type of union activity; the strike. It is assumed that the strike reduces the total gain from productivity activities shared among the firm and its employees. The discussion that follows is dedicated to study the strike threat in more depth.

Lindbeck and Snower defined the union's strike threat as an implicit contract between the firm and its insiders. If the firm accepts the union's wage proposal, then

none of the employees will strike. However, if the proposal is rejected, then some (possibly all) of the employees will strike.[14]

Based on the assumption that insiders have more market power than other workers, it was only natural for Lindbeck and Snower to restrict their analysis on unions consisting of insiders only. They assumed that the union makes a wage proposal to the firm on behalf of union members (the insiders). However, as the firm rejects this proposal the strike is provoked. In cases where the strike is "won" by the insiders, the firm becomes obligated to accept the union's proposal. On the other hand, if the strike "loses", the wages will stay beneath the union's wage level[15]. In this context, most of the firms use a common counter move: the lock-out[16]. This device helps the firm to reduce the union's strike fund and thereby to diminish the union's bargaining power and moderate its wage proposals.[17]

Figure (13) pictures the sequence of decisions in the bargaining process and implicit contract between the firm and its insiders. First, the union makes a wage proposal *(W)*. The firm then makes its decision on whether to accept or reject the wage proposal. If the firm rejects the wage proposal, the union decides which proportion of the workforce to conduct the strike, *(a)*. The reason for such behavior is that the union calculates the strike's harm to the firm and the strike's harm to the union itself through the reduction and draining of strike funds. The firm must then make another decision on whether or not to undertake a lockout in response to the strike. Based on the lockout decision, the insiders (union members) decide whether to participate in or break the strike. In fact, the strike and the lock-out decisions are inherently intertemporal. The strike aims to attain a particular wage in the future,

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[14] Assar Lindbeck, Dennis J Snower, "Strike and Lock-Out Threats and Fiscal Policy", **Oxford Economic Papers**, vol. 39, No. 4, December 1987, p. 767.

[15] Ibid.

[16] It is a temporary work stoppage or denial of employment initiated by the management of a company during a labor dispute. Note that the lock-out threat is not the only response for the firm to the strike threat. The firm can response by replacing all the strikers with new entrants, however this solution is correlated with high hiring and firing costs which makes the lock-out decision or no response at all less damageable for the firm's profit.

[17] In Assar Lindbeck and Dennis Snower model, it is supposed that the players have perfect information about each other's costs.

where the lock-out decision aims to reduce the demanded wage level by the union in the future.[18]

Figure 13: The Sequence of Decisions
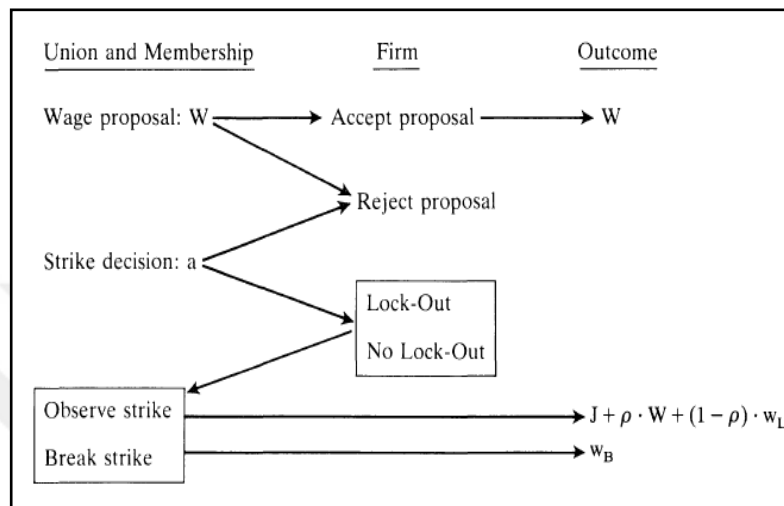
To simplify the idea we can capture the wage proposal process in two time periods. Let (ρ) be the probability that the union will win the strike[19]. In case the union members decide to participate in the strike (observe), they will then receive a strike fund (J) in the first period. The remuneration in the second period depends on whether the union will win or lose the strike. The probability that the union will win the strike (ρ) indicates that union members will expect receiving the proposed wage level (*W*) by the union in the first period. Yet, with the probability of losing the strike (*1 - ρ*), union members will expect a wage level (w_L) lower than the proposed one. Then the expected income of the union members, when participating in the strike, can be expressed as;

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[18] Lindbeck and Snower saw these two decisions (the strike and the lockout) as inherently intertemporal; therefore they captured their analysis in two time periods.

[19] It is assumed that (ρ) is inversely related to the size of the union's wage proposal: $\rho = \rho(W), \rho' < 0$.

$Y = J + [\rho. \; W + (1-\rho). \; w_L]$.

In case the union members decide not to participate in the strike, the wage level will definitely be lower than the one proposed by the union, we can call it (w_B). We conclude that, in both cases, (w_L) and (w_B) will fall short of the union's wage proposal (W). Consequently, in order for the union to maximize the insider wage, subject to the condition that no insider is fired, the union needs to fulfill two conditions before the wage proposal:

(a) If the strike threat is credible, that is, in case the firm rejects the union's wage proposal, the union members will have the incentive to participate in the strike rather than break it.

(b) If the wage proposal is not be rejected by the firm, there will be no need to provoke a strike. Worthy of mentioning, the wage proposal level will not exceed a critical value (W^*), which will abduct the firm's opportunity to reject the proposal. Furthermore, rejection of the union's wage proposal will induce the union's incentive to reduce the proposed wage. This is to avoid bearing the strike fund payments for each striker. At the wage critical value (W^*) the expected income would be expressed as;

$Y^* = J + [\rho. \; W^* + (1-\rho). \; w_L]$.

Under these circumstances, figure (14) illustrates the relation between the worker's expected income and the wage proposal. The figure shows that whenever wage proposal lies beneath (W*), the firm accepts the wage proposal, until it reaches the wage critical level. Then, and if the wage proposal exceeds the wage critical value (W*), the firm rejects it. Since the maximal labor income in case of rejection of

the wage proposal falls short of the maximal income in case of acceptance[20], the union has an incentive to propose a wage level that does not provoke a strike.

Figure 14: The Income-Wage Proposal Relation
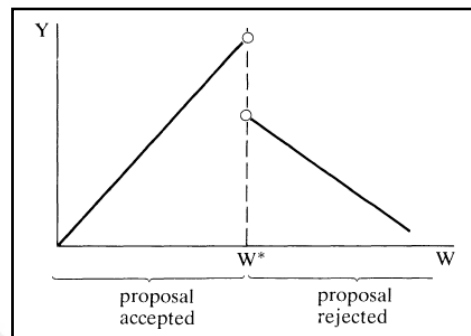
We conclude that the union's wage proposal is set as high as possible, subject to three conditions: (1) no strike is provoked, (2) the strike threat is credible, and the ultimate condition (3) no insiders are fired.

If the maximal wage fulfills the first condition, we call the wage "the proposal acceptance wage*", W^i_{PA}*. If the maximal wage fulfills the second condition, we call it "the credible threat wage*", W^i_{CT}*. The third condition is a non-negativity constraint on profit and if the maximal wage fulfills it, we call it the "zero-profit wage", W^i_{ZP}. The union's wage proposal can then be expressed as following[21],

$$W^i = min \ (W^i_{PA}, \ W^i_{CT}, \ W^i_{ZP}).$$

Lindbeck and Snower did not give much attention to the zero-profit wage; they assumed that $W^i_{ZP} \geq min \ ((W^i_{PA}, \ W^i_{CT})$. Accordingly, the main focus in the following discussion will be on the proposal acceptance wage and the credible threat wage. After displaying the outline of the bargaining strategies of the firm and the union and how it depends on the strike outcome, and the main characteristics of the wage

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[20] Ibid., p. 782.
[21] Ibid., p. 770.

proposal. The following discussion will emphasize the way a union formulates its wage proposal, and can be examined through three scenarios (1) strike threat with lockout threat; (2) strike threat without lockout threat; and (3) the lock out decision.

Strike Threat with Lock-Out Threat examines the situation where some insiders strike and the firm locks out the rest. Recall that the union tries to maximize the wage of insiders, subject to the condition that no insider is fired. Furthermore, it is assumed that the firm has three factors of production, insider labor (L_I), entrant labor (L_E) and capital stock (K). Therefore the firm's production function can be expressed as following,

$$Q = min \: [(L_I + L_E), \: K].$$

Then the solution for the profit maximization problem would be,

$$L_I + L_E = K$$

However the union's wage proposal is set that,

$$L_I = K$$

Let (L^*) be a positive constant that presents the level of the insider labor equal to the capital stock. If the firm accepts union's wage proposal (W), the present value of the firm's profit is,

$$\pi^a = 2 \: . \: [1\text{-}W]. \: L^*.$$

(π^a) stands for the profit, in case the firm accepts the union's wage proposal. The Number two in the equation stands for the total profit of the two periods. Since this analysis will consider the wage bargaining in two periods; if the firm accepts the wage proposal in the first period, the second period will be the same. Where (W) is the proposed wage by the union, and (L^*) is the number of labors the union aims to have as insiders, and is also the exact amount of labor the firm needed.

On the other hand, if the firm rejects the union's wage proposal (W), then the present value of the firm's profit is,

$$\pi^l = \rho \,.\, [1\text{-}W].\, L^* + [1\text{-}w].\, L^*.$$

Where (π^l) stands for the profit if the firm rejects the union wage proposal. Let (ρ) be the probability that the union will win the strike; (W) be the proposed wage by the union; (w) be the wage the insiders will receive in case of rejecting the union's wage proposal; and finally (L^*) be the number of labors the union aims to have as insiders as well as the exact amount of labors the firm needs.

The union will tend to use the strike device in case of rejection. Therefore the firm will lockout all remaining insiders, rendering profit zero in the first period. The second period bears two scenarios: the first one is when the union wins the strike, and the insider wage increases to reach the union's proposal wage *(W)*. This scenario expresses the first part of the firm's profit, in case of rejecting the union's wage proposal. The second scenario is when the union loses the strike, and the insider wage becomes *(w)*. This scenario is expressed in the second part of the firm's profit, in case of rejecting the union's wage proposal.

Then when the proposal acceptance wage *(W^I_{PA})* is sufficiently high, the firm accepts this wage level. Due to the fact that the firm's profit (π^a) after accepting this wage level is the same as the profit in case the firm rejected (π^l) this wage level, in which $(\pi^a) = (\pi^l)$.

Regarding the credible-threat wage (W^i_{CT}), the union must put into consideration that if the firm rejects the union's wage proposal, the union members would be on the margin of indifference between participating in the strike and breaking the strike. This would usually be the case if the union members' utility from striking is equal to that from not striking.

If the firm rejects the union's wage proposal, the union specifies a budget for the union's total strike fund (X). Let (J) be the payments per worker to serve as income to the union members while striking. Both strikers and lockout victims are entitled to the strike payment, $J = (X/L^*)$. In case all union members within the firm

participated in the strike in the first period, each striker will receive the strike fund payments (*J*) in the first period. However, in the second period, workers receive the union's wage proposal level (*W*) in case the strike wins, or (*w*) in case of a loss; Nevertheless, when workers break the strike they gain (*w*) in both periods.

Lindbeck and Snower assumed that all union members are identical; having the same utility function and facing the same insider wage, strike payments and the union's wage proposal. Therefore, it is assumed, the strike is observed by all members or broken by all members. However in practice, union members are heterogeneous. Therefore some members might participate in the strike while others break it. The issue emerges when the strike wins. Throughout this the resulted wage will be received by all union members, and could lead to "free rider"[22] problem. However, the potential cooperation and harassment activities workers might face could deter some from breaking the strike. Whereby harassing the strikebreakers could possibly raise their marginal disutility and lack of cooperation, and decrease their productivity to the extent of being laid off in the process of production. This relation between the strikers and breakers within the firm is similar to that between the insider and outsider workers.

The credibility of the strike can increase or decrease by two factors. Whenever the strike payments per worker increase it is likely for the strike credibility to increase as well. This is because the utility from participating in the strike increases, whereas the utility from breaking the strike remains unchanged. On the other hand, whenever there is a rise in the wage proposal (*W*), the credibility of the strike decreases, since the probability of rejecting the proposal wage increases and vice versa. In sum, the wage can affect the strike threat credibility in two ways: (1) when the union's wage proposal falls, workers have a greater inducement to participate in the strike on the grounds they are more likely to win the strike. This is called the "bird-in-the-hand" case, because the reasoning is "one bird in the hand is

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[22] The free rider problem, in economics, refers to a situation where some individuals in a population either consume more than their fair share of a common resource, or pay less than their fair share of the cost of a common resource. In our context, it refers to the workers who have not participated in the strike but still after the strike is won, they will receive the same wage level (the union's wage proposal) as strikers.

worth two in the bush.[23] (2) When the wage rises, workers have a greater inducement to participate in the strike on the grounds their wage income is higher when they win the strike. We call this the "pie-in-the-sky" case, because the workers are being induced to strike through the chance of "a pie in the sky.[24]

Strike Threat without Lock-Out Threat, when the firm decides not to apply the lockout method, while facing a strike, the firm keeps all the remaining employees in their normal positions in the production line. As in the strike threat with lock-out threat case; if the firm accepts the union's wage proposal (*W*), its profit for the two periods is given as following,

$$\pi^a = 2. [1-W] . L^*.$$

Yet if the firm rejects the union's wage proposal, the union would take actions and call (*a* . L^*) of the firm's workforce out on strike. Let (*a*) be the proportion of the workforce to participate in the strike, and (*L^**) be the firm's total workforce.

Therefore in the first period, the remaining employees ((*1-a*). L^*) generate the firm's profit, these employees receive wage (*w*). In the second period, all employees receive (*W*) if the strike wins, and receive (*w*) if the strike loses. In case of rejecting the union's wage proposal, the firm's profit is (π^n),

$$\pi^n = [1\text{-}w] . (1\text{-} a).L^* + \rho. [1\text{-}W]. L^* + (1\text{-} \rho). [1\text{-}w]. L^*.$$

Where *(π^n)* stands for the profit in case the firm rejects the union's wage proposal in a case of "no lock-out". Let (*ρ*) be the probability that the union will win the strike; (*W*) be the proposed wage by the union; (*w*) be the wage the insiders will receive in the case of rejecting the union's wage proposal; and finally (*L^**) is the number of labors the union aims to have as insiders and is also the specific amount of labor the firm needs.

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[23] Ibid., p. 773.
[24] Ibid.

In cases of strike threat without lockout threat, the number of the strikers plays a vital role in the proposal acceptance wage, where the proposal acceptance wage (W^n_{PA}) sets ($\pi^a > \pi^n$). The greater the number of insiders participating in the strike, the smaller the firm's profits in the first period of the strike event, the higher the proposal acceptance wage. Additionally, the greater the number of insiders participating in the strike, the smaller the strike fund payment (J). In other words, there is inverse relationship between the proposal acceptance wage (W^n_{PA}) and the strike fund payment (J).

After looking through the unions wage proposal in the presence and absence of the lockout decision, we examine cases in which the firm should call *the lock-out decision* and when it should hold back. Firm's ultimate aim is maximizing their profit. And, the firm that applies lock-out earns less profit in the current period than the one that does not[25]. Therefore the firm has more incentive to apply the lock-out strategy; if it was to provide a future advantage that exceeds the current profit loss.

Lindbeck and Snower saw that the only future advantage of the strike-out threat is in cases in which the firm is able to reach a lower insider wage for its employees. This is through reducing the strike fund payment (J), leading to a fall in the unions' wage proposal. The union put its wage proposal in the first period in anticipation of the size of the strike fund payment. Therefore, any changes in the strike fund payments could affect the union's wage proposal (W).

The condition in which lock-out threat reduces the strike fund payment (J) is fulfilled when the credibility constraint is binding, in which $W = W_{CT} \leq W_{PA}$. The condition in which reduction in (J) leads to a fall in the union's wage proposal is satisfied if the wage proposal is credibility reducing, as W and J have opposite effect on the credibility degree.

In sum, the reason behind the lock-out threat is reducing the union's ability to support insiders during the conflict, which results in encouraging the insider to break

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[25] In case of the firm hold the lock-out decision, the remaining members (non-strikers) will manage to generate some profit. While in case the firm decided to lock-out all the members (strikers and non-strikers), the firm will earn no current profit.

the strike rather than to observe it. Therefore the union would reconsider the proposed wage aiming to gain the strike threat credibility again, through reducing the union's wage proposal. Remark, as I have mentioned previously, whenever there is a rise in the wage proposal (W), the credibility of the strike decreases, since the probability of rejecting the proposal wage increases and vice versa. Final point, the lock-out threat is used whenever the expected present value of the firm's profit, when the union's wage proposal is rejected, is bigger than the expected present value of the firm's profit, when the union's wage proposal is accepted. This section presented the main stream of how the union wage formulates its wage proposal in the presence and absence of a lockout threat.

3.3. The influence of Union Power on Economic Resilience

This section is primarily concerned with how the exercise of the insider market power affects the "resilience" of a labor market i.e. the ability of the market to recover after a business downswing. The insiders' market power could cause temporary labor market shocks, which could have persistent effects on employment and wages. Some economists called this phenomenon "hysteresis", but Assar and Snower preferred not to use this term since it is not convenient for distinguishing different types of persistence.

It is assumed that economies with large labor turnover costs as well as powerful unions and insiders might suffer from prolonged period of stagnation more than economies with small labor turnover costs as well as weak unions and insiders, particularly when these unions are primarily concerned with the interests of employed workers. Within this context, the insider-outsider theory might have an explanation on why the worldwide recession in the 1970s-1980s had more severe effects in Europe than elsewhere.

This section will present a theoretical rationale for hysteresis and its implications, followed by a differentiation between the asymmetric and symmetric

persistence. Eventually moving to the union activity and its relation with the unemployment persistence effect.

3.3.1. Hysteresis Effect and the Dynamics of the Insider - Outsider Theory

In the 1970s, many countries experienced high levels of both inflation and unemployment, which created many puzzles for macroeconomic analysis, both theoretical and empirical. At the time of the stagflation, Milton Friedman and Edmund Phelps introduced the natural rate of unemployment as a key concept in modern macroeconomics; this concept was associated with a stable rate of inflation.

Friedman and Phelps argued that the government would not be able to permanently trade a higher inflation for a lower unemployment level. The problem in Philips curve was that it determined the rate of money wage independent from the rate of inflation. Consequently, workers experience what economists call money illusion. Therefore, they make their labor supply decisions based on money wages. Friedman and Phelps made a distinction between the "short-run" and "long-run" Phillips curves: as long as the average rate of inflation remains constant, there will be a trade-off between inflation and unemployment. However, if the average rate of inflation changes, when policymakers try to push unemployment below the natural rate after a period of adjustment, unemployment will return to the natural rate. That is, once workers' expectations of price inflation have had time to adjust, *the natural rate of unemployment* becomes compatible with any rate of inflation[26].

"There is always a temporary tradeoff between unemployment and inflation; there is no permanent tradeoff. The temporary tradeoff comes not from inflation per se, but from unanticipated inflation, which generally means,

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[26] Kevin D. Hoover, " Phillips Curve", **Library of Economics and Liberty**, online, http://www.econlib.org/library/Enc/PhillipsCurve.html, 08.03.2015.

from a rising rate of inflation… Eventually, unemployment returns to the natural rate"[27]

Imagine the government reduces the unemployment below its natural rate through expansionary monetary or fiscal policy. Excess demand in goods and labor markets would result, which would encourage firms to raise their prices faster than workers had anticipated. Consequently, they misinterpret their money wage increases as real wage increases and supply more labor[28].

On a short term, workers suffer from money illusion consequent to money wage increase. Labor will have more incentive to supply more labor and firms would gain higher revenues. Firms will also have more incentive to employ more workers at old wage rates and even somewhat raise those rates, after which unemployment would fall. However, on the long term, workers start to adjust their inflation expectations in the light of the actual rate of inflation. They also start to recognize that their purchasing power has decreased. Workers would then start to supply less labor and insist on increases in wages that could keep up with inflation[29]. The real wage is restored to its old level, and the unemployment rate returns to the natural rate. Nevertheless, the price inflation and wage inflation brought on by expansionary policies continue at new, higher rates.[30]

Most economists accepted the central concept of both Friedman's and Phelps's analysis: that there is some rate of unemployment compatible with a stable rate of inflation. This acceptation leaded to a second important unemployment rate: the "Non-Accelerating Inflation Rate of Unemployment," or NAIRU. This concept is preferred to be used when discussing long-run unemployment because, unlike the

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[27] Milton Friedman," The Role of Monetary Policy**, The American Economic Review**, vol.58, No.1 March 1968, p.11.
[28] Brian Snowdon, Howard R. Vane, **Modern Macroeconomics: Its Origins, Development and Current State**, Massachusetts, Edward Elgar Publishing Limited, 2005, p.176.
[29] Milton Friedman," The Role of Monetary Policy**, The American Economic Review**, vol.58, No.1 March 1968, pp.7-11.
[30] Brian Snowdon, Howard R. Vane, **Modern Macroeconomics: Its Origins, Development and Current State**, Massachusetts, Edward Elgar Publishing Limited, 2005, pp.174-177.

term "natural rate," NAIRU does not imply that an unemployment rate is socially optimal, unchanging, or impervious to policy.

"The NAIRU concept takes into account the inertia in the system, which allows a protracted response of the economy to various economic shocks.....Ball and Mankiw (2002) argue that NAIRU is 'approximately a synonym for the natural rate of unemployment'."[31]

Therefore, in the following discussion the NAIRU concept and the natural rate of unemployment will be used interchangeably

"According to Friedman's natural rate hypothesis, fluctuations of aggregate demand cannot exercise any influence over the natural rate of unemployment, which is determined by real supply-side influences. The conventional natural rate view allows monetary and other demand shocks to shift aggregate demand, thereby influencing the actual rate of unemployment in the short run. But, as inflationary expectations adjust, unemployment returns to its long-run equilibrium (natural) value"[32].

Figure (15) explains the conventional approach. The initial "*natural rate of unemployment*" (U_N) is at point (*A*). On the one hand, having a decline in the aggregate demand, the actual rate of unemployment will increase temporarily to point (*B*). On the other hand, having an expansion in the aggregate demand, the actual rate of unemployment will decrease temporarily to point (*C*). On the long run, the unemployment level will return to "*the natural rate of unemployment*" at point (*A*).

This theorem of the natural rate of unemployment or NAIRU did not apply in the 1980s, when the European countries suffered from high unemployment rates. The increase in the actual and equilibrium rates of unemployment triggered the new

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[31] Ibid., p.403.
[32] Ibid.

Keynesians to examine explanations, which allowed aggregate demand to influence the natural rate (*NAIRU*), and resulted in having 'hysteresis' theories[33].

Figure 15: The Relationship between Actual Unemployment and Equilibrium Unemployment.
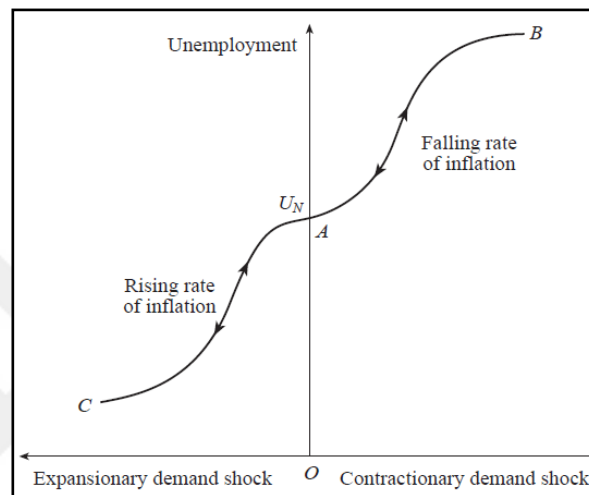
The term hysteresis comes from the Greek verb meaning 'that which comes after', and refers to effects which persist, after the initial impulse which gave rise to those effects is removed[34]. In physics, hysteresis refers to the failure of an object to return to its original value after being changed by an external force, even after the force is removed[35]. In the labor market, a similar phenomenon would arise if the natural rate depended on past unemployment. In the labor market, "hysteresis" is used to denote a situation in which the equilibrium unemployment rate is determined, at least in part, by the path of the actual unemployment rate[36]. "*The natural rate of*

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[33] Brian Snowdon, Howard R. Vane, **Modern Macroeconomics: Its Origins, Development and Current State**, Massachusetts, Edward Elgar Publishing Limited, 2005, p.404.
[34] Michael Dobbie, "Hysteresis and Insider-Outsider Theory: A Literature Review", **Macquarie economics research papers**, 2004, p.2.
[35] Laurence Ball, N. Gregory Mankiw, "The NAIRU in Theory and Practice" **Journal of Economic Perspectives**,vol. 16, No. 4,Fall 2002,p. 5.
[36] Ibid., p.2

unemployment will increase if the actual rate of unemployment in the previous period exceeds the former time period's natural rate."[37]

In this context, the hysteresis effect can be expressed as following,

$$U_{Nt} = U_{Nt-1} + a(U_{t-1} - U_{Nt-1}) + b_t$$

At time (t), let (U_{Nt}) be the natural rate of unemployment, (U_{Nt-1}) be the natural rate of unemployment in the previous period, (U_{t-1}) be the actual employment rate of the previous period, and (B_t) be other influences such as (unemployment compensation)[38] on the natural rate of unemployment. Figure (16) illustrates the impact of hysteresis:

Figure 16: The Hysteresis View of a 'Time-Varying' NAIRU
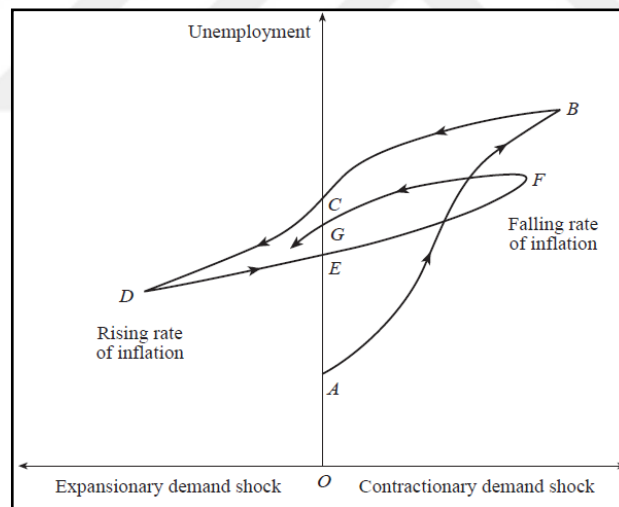
Source: Brian Snowdon, Howard R. Vane, **Modern Macroeconomics: Its Origins, Development and Current State**, Massachusetts, Edward Elgar Publishing Limited, 2005, p.406.

Point (A) represents the initial equilibrium unemployment rate. As a result of a negative aggregate demand shock, the output will decrease and the unemployment will rise to point (B). After recovering from the recession, the unemployment rate

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[37] Brian Snowdon, Howard R. Vane, **Modern Macroeconomics: Its Origins, Development and Current State**, Massachusetts, Edward Elgar Publishing Limited, 2005, p.405.
[38] Ibid., p.405

will fall but will not reach point (A). And in response to the hysteresis effect, point (C) will be the new NAIRU level. In case of positive aggregate demand shock, unemployment will fall to point (D), and when the economy returns to equilibrium, NAIRU will have fallen to point *(E)* by then. We conclude that the NAIRU is influenced by the actual rate of unemployment, which itself is mainly determined by aggregate demand[39].

Two implications of the hysteresis theory are the duration theory and the insider-outsider theory. The duration theory emphasizes on the fact that the longer a worker is unemployed; the lower is his opportunity of finding a job. It mainly discusses how some workers could face diminution in their skill levels during the unemployment period. Therefore, the aggregate unemployment can experience persistence that outlasts the duration shock; the reason of moving the market out of its steady state[40].

Imagine employment suffered from a negative shock that led to a reduction in hiring, making the unemployment duration longer. Losing some of the unemployed workers' skills during the unemployment period will render them less attractive to firms, reducing the number of jobs in the following period. Consequently, after the shock, the number of jobs will decrease below trend and the unemployment durations will increase above trend. Thus, the effects of the shock persist, even if the market recovered. The duration theory also looks through workers' tendency to decrement their job search as they become accustomed to being unemployed[41], depending on the unemployment insurance benefits. However, it is unlikely to be the main explanation of the high overall rate of unemployed workers. Less than half of the unemployed receive insurance benefits, and a large part of withdrawal occurs among

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[39] Ibid.

[40] Christopher A. Pissarides, "Loss of Skill During Unemployment and the Persistence of Employment Shocks" **The Quarterly Journal of Economics**, vol. 107, No. 4, November 1992, pp. 1371-1374.

[41] Laurence Ball, N. Gregory Mankiw, " The NAIRU in Theory and Practice ", **Journal of Economic Perspectives**,vol.16, No. 4, Fall 2002, p.6.

young people and women who are frequently ineligible for unemployment insurance.[42]

Conclusively, as long as the job search is correlated with the unemployment duration, unemployment persistence may arise. It is mainly due to the fact that the more workers stay unemployed, the smaller their chances to find a job. Firms use the unemployment duration as an indicator for worker productivity, work skills and work ethic. "Time since last job" is used as an important criterion in taking the hiring decision[43]. It is safe to say that the longer workers stay unemployed, the more obstacles they will face with finding a job. The current unemployment comes to depend positively on past unemployment.

The second implication is the insider-outsider theory; particularly, the role of the union membership in emphasizing the insider power, which causes unemployment persistence and the duration theory. Assar and Snower analyzed the labor market resilience in terms of two separate effects of insider power on unemployment: symmetric and asymmetric persistence effects.

3.3.2. Symmetric and Asymmetric Persistence of Labor Market Shocks

The adverse shocks, which initiated the recession in the early 1980s, were supposed to go back to their initial equilibrium after a few years. However, employment in Europe remained stagnant. Depending on the assumption that a favorable shocks can help the European economy recover from the recession at the same rate at which the adverse shocks made the European economy suffer from this recession. This however was not the case in the 1980s recession.

The insider-outsider theory implies that two factors cause this temporary labor demand shock to have persistent effects on employment and wages: (1) the

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[42] Kim B. Clark and Lawrence H. Summers, " Labor Market Dynamics and Unemployment: A Reconsideration", **Brookings Papers on Economic Activity**, 1979 , pp.27-28.

[43] Olivier Jean Blanchard and Peter Diamond, "Ranking, Unemployment Duration, and Wages", **The Review of Economic Studies**, vol. 61, No. 3,July 1994, p. 432.

shocks may have lagged effects on the size of firms' insider work forces, and (2) after the changes in workforce size, insiders may have more incentive to have higher wage objectives in the next round of wage negotiations. The change in future wages influences future employment, despite the initiating shock is no longer being present[44]. Lindbeck and Snower analyzed the labor market resilience in terms of two separate persistence effects of insider power on unemployment: the symmetric persistence effect and asymmetric persistence effect.

The symmetric persistence effect means that random variations in labor demand might create persistent, symmetric changes in unemployment. In other words, the economy suffers from a decline in its unemployment rate due to a temporary favorable shock. By contrast, a negative shock will cause a rise in the unemployment rate. Consequently, if favorable and unfavorable shocks have the same magnitude, the effect of both shocks would then have equal magnitude as well. This means the negative and positive shocks have equal but opposite effects on unemployment.

The fundamental base of the symmetric persistence is that the labor demand shocks are unforeseen by the wage negotiators. The wages will otherwise be set on lower levels, leaving no need to dismiss insiders. Which explains why shocks remain stationary through time; if shocks were assumed to follow a random walk then the insiders who are not laid off will expect their job security to be unaffected by shocks and thus render their wage demands unaffected as well[45]. Their wage setting will therefore not perpetuate the effects of these shocks. This wasn't the case of prolonged recession in Europe in the 1980s; the assumption can be valid for the first or the second year of the recession, but it is illogical to assume that these employees continued to be surprised for more than half a decade. [46]

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[44] David Begg, et.al., "Symmetric And Asymmetric Persistence Of Labor Market Shocks", **Journal of the Japanese and International Economies**, December 1989, p.558.
[45] Ibid., p.559.
[46] Assar Lindbeck, Dennis J Snower, **The Insider-Outsider Theory of Employment and Unemployment**, The MIT press, Cambridge, Massachusetts, 1988, p.211.

Nevertheless, this lack of resilience might occur to be an advantage in some situations. If the insiders can prolong the effect of an adverse effect, they can also prolong the effect of a favorable shock. Since there are more insiders; if the size of the insider work force increases, insiders will assume their job security level has declined and the average labor demand is expected to remain unchanged. In the following wage negotiations period, the insider will opt for a lower wage level. As a result, there will be a drop in the future wage levels that will lead to an increase in the employment level, which would not have been reached in the absence of the initial shock even if that shock has in fact disappeared.

The asymmetric persistence effect, whereby insiders' influence on wages causes random labor demand shocks around a stationary mean, which leads to larger wage changes and smaller employment changes in the upswings compared to the down swings[47].

A negative labor demand shock will lead to a greater change in the insider workforce than does a favorable shock of equal magnitude. As a result, the increase in the future wage levels from a negative shock is greater in magnitude than the decrease in the future wages from a favorable shock. This means that, a decrease in current employment at any given wage does more to discourage future employment than an increase in current employment does to encourage it. In other words, downward shocks are more persistent than upward shocks.[48] Asymmetric Persistence arises in response to both foreseen and unforeseen shocks. A number of rationales for asymmetric persistence are proposed:

First, if the asymmetric wage response occurs while the firing decisions are governed by the seniority system[49] and high labor turnover cost, the senior insiders would be able to protect their positions in the firm from a foreseen adverse shock by preventing the laid-off workers from regaining their job, through wage underbidding; harassment and cooperation activities. Therefore, the shock will cause a relatively

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[47] Ibid., p.208.
[48] Ibid.
[49] The system governing how many of the entrants become insiders within a given period of time, and how many of the insiders become outsiders within a given time span after losing their employment.

large decrease in the employment level and a small decrease in the insiders' wages. However, after the shock disappears, knowing they will not face dismissal threat, the insiders try to increase their wages. As a result, the wage level will increase while the rise in employment level is muted[50].

Note that a degree of asymmetry in the insiders' wage response depends on the speed with which laid-off incumbents lose their insider status[51]. For example, if the shock lasts for a short period only, the remaining insiders look at laid off workers as "near-insiders". Once the shock disappears, the remaining insiders won't be willing to demand for higher wages, to prevent "near-insiders" from regaining their jobs. Within this context, we can see that the asymmetry in the insider's wage response is weakened. Moreover, if the shock was prolonged, then laid-off workers won't be considered "near-insiders"[52].

Second, even in the absence of the seniority rules or the influence of the turnover costs, and due to the asymmetric risk workers might face in the upswings and downswings; an asymmetric wage response to foreseen shocks will take place. On one hand, we can consider the anticipated upswing where the insiders do not have to worry about employment risk. Insiders know the magnitude of the favorable shock; their nominal wages do not increase more than their marginal revenue product, and they are certain they will retain their jobs. Consequently, this favorable shock will encourage the insiders to demand higher wages without worrying about their job security. On the other hand, in the foreseen downswing, the insider will face significant employment risk. In the absence of the seniority system each insider will be uncertain whether he will be retained at the previous wage. Therefore, the insiders will not prefer high reductions in their wages aiming to preserve their high job security level, but rather they accept wage reduction with job security reduction at the same time[53].

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[50] Ibid., p.242.
[51] Ibid., p.560.
[52] Ibid.
[53] Ibid., p.243.

Third, asymmetric wage response might occur if the labor union was dominated by insiders. Whenever the employment level is less than the insider membership, such curves slope downwards in the wage-employment space, which reflects the willingness of the union to trade off wages for employment. Yet the indifference curves are flat when employment exceeds the insider membership, which reflects the insider's lack of concern in the outsider's interest[54]. Thus, in a downturn, the union accepts a combination of wage and employment cut, when employment level decrease beneath the union membership. As a result, the union membership level falls. Yet once the labor demand curve shifts outward to its original position, the union won't be interested in reversing its entire membership drop. That is when the union considers the laid-off workers as outsiders, and the remaining insiders aim to drive their wages higher. It is important to note a countervailing point of view that highlights how this "membership effect" can be limited; since union leaders perceive a rise in the union membership as an advantage, it raises the membership fees for prestige purposes and union political power. That is why many unions regard the laid-off workers as "near-insiders".

3.3.3. Union Activity and Unemployment Persistence

This part of the union section explains how the exercise of union power in wage bargaining may make the labor market less resilient while facing cyclical swings in the labor market. We now consider a macroeconomic model to explain the lack of resilience within the labor market. As mentioned in the previous section, the symmetric persistence effect and the asymmetric persistence effect should be taken into consideration to analyze the loss of resilience within the labor market.

Figure (17) consists of the labor demand function pictured in panel (a) which illustrates the relation between the wage level and labor demand; the wage setting function pictured in panel (c) which illustrates the relation between the wage and

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[54] David Begg, et.al., "Symmetric And Asymmetric Persistence Of Labor Market Shocks", **Journal of the Japanese And International Economies**, December 1989, p.562.

employment that emerges from the union bargaining process; and the entry exit function pictured in panel (d). The Entry-Exit function can be expressed as following,

$$H= h \, [(1-r) \cdot (L_{-1} - L^{I}_{-1})]$$

Lindbeck and Snower assumed that (L) is the employment level, (L^{I}) is the firms' current incumbent workforce and (r) is the retirement rate, making $(r.L^{I}_{-1})$ the last period's incumbent insiders retire. This function describes how many non-retired, employed non-members in the firm $[(1-r) \cdot (L_{-1} - L^{I}_{-1})$ when $L_{-1} > L^{I}_{-1}]$ become union members. Or how many non-retired insiders who have been dismissed $[(1-r) \cdot (L^{I}_{-1} - L_{-1})$ when $L_{-1} < L^{I}_{-1}]$ exit from the union.[55]

First we consider the symmetric persistence effect. Let (W^{*}) be the initial equilibrium, which lies between the reservation wage and the maximum wage. If, after the wage has been negotiated, labor market faced a negative shock, the labor demand curve shifts downward, knowing that the labor demand shocks are unforeseen by the insiders. This shift is illustrated in figure (18) panel (a). At the initial equilibrium (E_{I}), (W^{*}) represents the initial wage and (L^{*}) the employment level. After a negative shock in the labor market, the labor demand curve shifts down, the new equilibrium is found at (E_{I}'), the wage level remains at (W^{*}) and the employment level decreases to (L^{**}).

Lindbeck and Snower assumed that in case of an adverse shock, a number of the firm's non-retired insiders would be dismissed. That will decrease the size of the incumbent workforce, resulting in increasing each incumbent's retention probability. Consequently, the union will have an incentive to increase the demanded wage, which will result in a wage increase that is larger than what otherwise would have been.

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[55] Assar Lindbeck, Dennis J Snower, **The Insider-Outsider Theory of Employment and Unemployment**, The MIT press, Cambridge, Massachusetts, 1988, p.215.

Figure (17) in panel (c) illustrates the new wage at (E_2) equilibrium, where it is greater than the initial wage (W^*) yet smaller than the maximum wage level (W^{max}). The increase in wage will consequently decrease the firm's employing activity. In other words, the current employment will be lower than what it otherwise would have been. Note that in case the wage reached the W^{max}, the symmetric persistence effect disappears. This means, even if another negative shock occurs, there won't be another rise in wage. The reason to which is, if the union tries to exceed the maximum wage, the firm will have an incentive to replace the insider by an outsider.

We now consider the asymmetric persistence effect; observe in panel (d) how the left hand part of the entry-exit function is steeper than the right hand. This is due to the fact that once the insider has been dismissed; the insider would immediately lose his influence on the wage setting process since it is in the union's interest to care about the unionized members only. However the entrant will obtain this influence gradually rather than immediately, which means the entrants hired take time to gain the same level of influence on wage determination and to enter the labor union[56]. Therefore the adverse shock in labor demand has greater effect on the unionized insider workforce than a favorable shock does. The increase in future wages and unemployment due to an adverse shock is larger than the decrease in wages and unemployment due to a positive shock. This means that, an adverse shock will lead to a downward trend in the unionized insider workforce and an upward trend in the wage and unemployment rates.

The analysis in this section suggests that union's power over wages prevents the economy from recovering from a recession. Consequently the greater the unions' power, the bleaker the recovery process of the economy will become. In this light, we can present a partial explanation of why the unemployment rates stayed high in Europe in the 1980s after the recession, whereas the United States economy was more resilient. Here we can point out the intensive influence of unions on Europe in comparison to the United States. In the following discussion we examine what the government can do to stimulate employment and reduce unemployment; through

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[56] Ibid,. p.219.

diminishing the insider power by "power reducing policies" and through enfranchise outsiders by the "enfranchising policies".

Figure 17: The Labor Market Equilibrium and the Unemployment Persistence Effect.
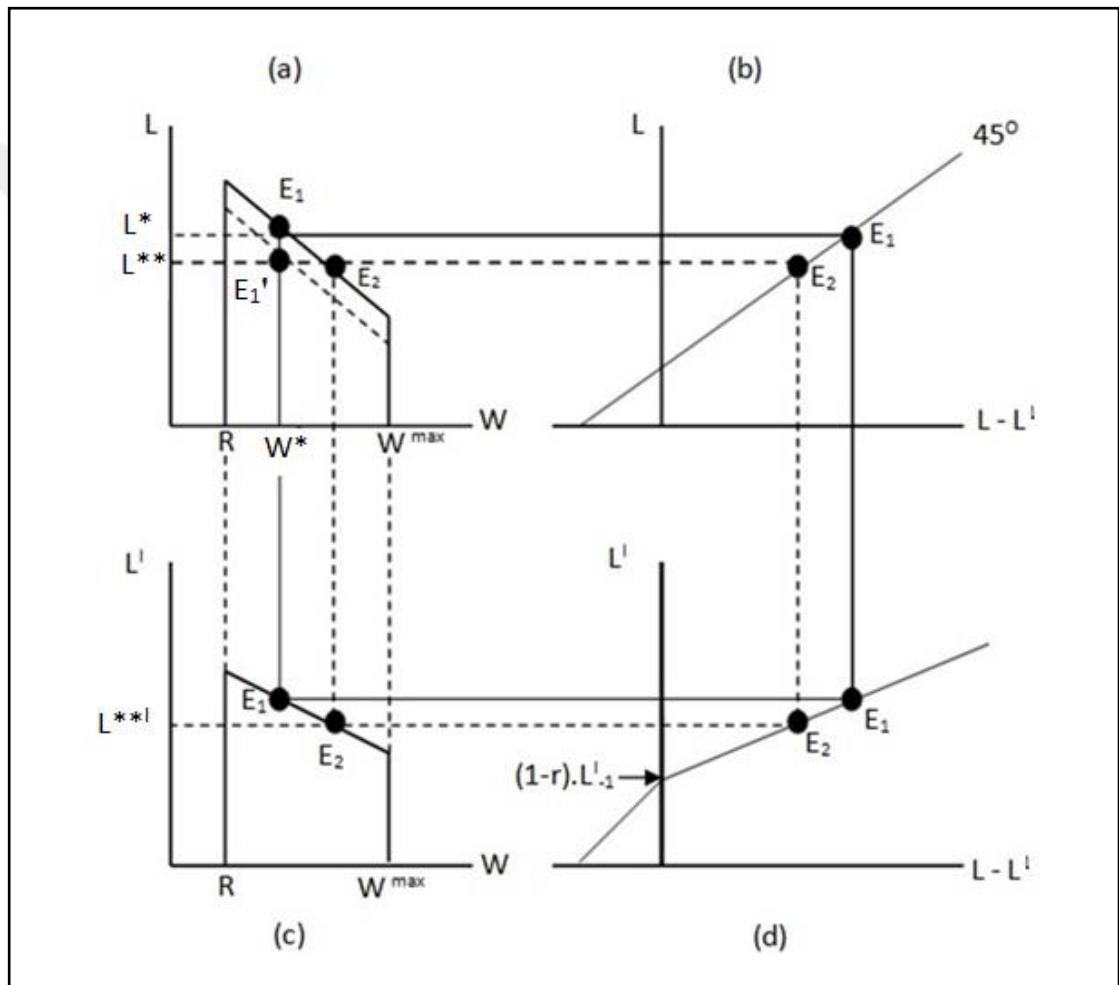
3.4. Unemployment and Macroeconomics policies

This last section will concentrate on the ways in which macroeconomic policies may affect wages and employment through shifts in the labor demand relation. It examines how such policies change the relation between real wages and labor demand. It also examines the determination of wage, employment, and unemployment. It is assumed that pricing, production, and employment decision are made by imperfectly competitive firms; and nominal wages are determined by workers who take into consideration the effect of the wage levels on employment. Consequently the firms' decisions result in "labor demand relation" which is a relation between the real wage and aggregate labor demand.

Lindbeck and Snower constructed a model of the production, employment, and pricing decisions of imperfectly competitive firms[57]. It is assumed that there is a fixed number of identical firms producing a homogeneous, nondurable product. Let the aggregate product demand function be

$$P = P(Q,A), \qquad P_Q<0, \ P_A>0, \tag{1}$$

Where (P) is the product price, (Q) is aggregate product demand, and (A) is a shift parameter representing the various other exogenous determinants of product demand (maybe varied through demand management policies). And let the firm's production function, where (n) is labor, be

$$q= f(n) \qquad f'>0, f''<0, \tag{2}$$

To examine the firm's imperfectly competitive behavior; Lindbeck and Snower illustrated the firm's interactions with its rivals through the simple assumption that, when it increases its production (q) by one unit, it expects its rivals to increase their production by $(c-1)$ unit:

$$d(Q^e\text{-}q)/dq = c - 1, \tag{3}$$

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[57] Assar Lindbeck, Dennis J. Snower, "Long-Term Unemployment and Macroeconomic Policy ", **The American Economic Review**, vol. 78, No. 2, May 1988, p. 38.

Where (Q^e) is the expected aggregate output, $(Q^e\text{-}q)$ is expected output of the firm's rivals and *(c)* is a constant[58]. The firm makes its employment and production decisions so as to maximize its profit,

$$\pi = P.q - W.n, \tag{4}$$

Subject to the product demand function (1), the production function (2), and the conjecture function (3). For this problem, we obtain the standard first-order condition for an interior optimum is:

$$\frac{d\pi}{dn} = P.f' + q.\frac{dP}{dn} - W \tag{5}$$

$$= P.f'.\left[1 + \left(\frac{dP}{dQ}.\frac{Q}{P}\right).\left(\frac{dQ}{dq}\right).\frac{q}{Q}\right] - W$$

$$= P.f'.\left[1 - \frac{v}{\eta.M}\right] - W$$

Where $\left(\frac{dP}{dQ}.\frac{Q}{P}\right) = \eta$ is the price elasticity of aggregate demand, and where $\left(\frac{dQ}{dq}\right) = v$ is the conjecture coefficient expressing the expected change in aggregate output by a firm when it changes its own output by one unit[59]; in other words, It describes the

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[58] (a) Under "Cartel behavior" (v = M), the firm expects each of its rivals to make the same production decision as it does itself, and thus all firms behave as if they were joint profit maximizers; (b) under "Cournot behavior" (v = 1), the firm expects its production decision to have no effect on the production decisions of its rivals; and (c) under "perfectly competitive behavior" (v = o), the firm expects its production decision to have no effect on aggregate output.

[59] A small value of (v) means that aggregate output is assumed by the firm to increase very little when it expands its own output.

imperfectly competitive interactions among firms, (*M*) is the given number of the identical firms in the economy and (*f'*) is the marginal product of labor[60].

Let (*m*) be a Lerner's measure of monopoly power that is the proportional price-cost margin: [(*P-MC)/P*], by the first-order condition (5) we obtain the marginal cost (*MC*),

$$MC = W/f' = P.[1-(v /(\eta.M))] \tag{6}$$

Since the real marginal value product of labor is set equal to the real wage *(W/P)*, and [*m =1/ \eta = v /(\eta.M)*] is the Lerner index of monopoly power, under monopoly, *M = v =1*, condition (5) has been reduced to the well known condition; that the Lerner Index is equivalent to the negative inverse of the formula for price elasticity of demand facing the firm *m =(1/\eta),* with *(\eta)* being the price elasticity of product demand,

$$(1-m)f' = W/P, \tag{7}$$

Now by inverting condition (7), L = (*f'*)$^{-1}$, we obtain the firm's "labor demand relation":

$$n = L ((W/P) . (1-1/\eta)), \tag{8}$$

Merely, for simplicity let *b = (1-1/\eta).* For obtaining the aggregate labor demand relation,

$$N = M.L = M.L (W/ P.b). \tag{9}$$

Multiplying the number of firms in the economy by the labor demand function which is the inverse function of the marginal product of labor yields the aggregate labor

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[60] Assar Lindbeck, Dennis J. Snower, " transmission mechanisms from the product to the labour market", **Institute for International Economic Studies Seminar paper No.403,** December, 1987, pp.5-7.

demand. Lindbeck and Snower assumed that there is no natural rate of unemployment, which means unemployment is not necessarily at a unique rate determined exclusively by the tastes, technologies and endowments of the agents in the economy. The main purpose here is to show how the exercise of market power by incumbent workers may be responsible for persistence effects of macroeconomic policies on unemployment in line with the insider-outsider theory[61]. Therefore, the firm's marginal productivity condition [$b.\, f' = W/P$] should be modified to include employment of insiders (L_I) and entrants (L_E) as following:

$$b.f'\,(L_I,L_E) = W_i/P; \qquad\qquad i=I,E, \qquad\qquad\qquad (10)$$

Where (W_I) and (W_E) are the nominal wages of insiders and entrants, respectively. And (f_I'), and (f_E') are their marginal products adjusted for the relevant labor turnover costs. For instance, (f_I') could be the insiders' marginal product plus their marginal firing cost and (f_E') could be the entrants' marginal product minus their marginal hiring cost. Figure (18) pictures the labor demand relation for insiders and entrants illustrated by the downward sloping curves. Where (K) is the firm's incumbent work force. The insider wage is set so that the firm will not have the incentive to replace the insiders by entrants.

$$P.b.f'_I\,(L_I,0) = W_I, \qquad\qquad\qquad\qquad\qquad (11a)$$

$$P.b.f'_E\,(K,L_I) = W_E, \qquad\qquad\qquad\qquad\qquad (11b)$$

The two labor demand relations express how multiplying marginal product of labor, whether it is an insider or entrant, by the price gives the value of the marginal

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[61] Assar Lindbeck, Dennis J. Snower, "Long-Term Unemployment and Macroeconomic Policy ", **The American Economic Review**, vol. 78, No. 2, May 1988, p. 38.

value product of labor which should be equal to the nominal wage of the worker. In wage determination, it is assumed that the insider sets his wage "individualistically" by taking the wages and employment of the other insiders as exogenously given, then view himself as the marginal employee in his firm.

Figure 18: The Firm's Equilibrium
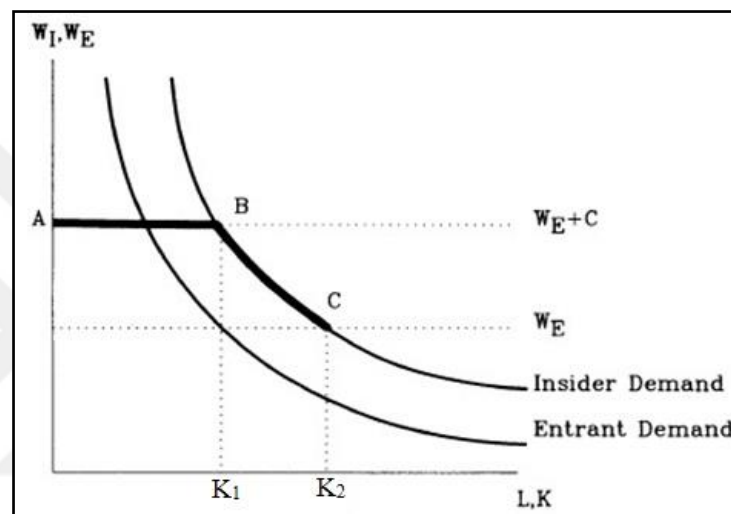
Source: Assar Lindbeck, Dennis J. Snower, **The Insider-Outsider Theory of Employment and Unemployment**, The MIT press, Cambridge, Massachusetts, 1988, p.231.

As mentioned previously, the insider will set his nominal wage as high as possible subject to the absolute profitable constraint. That is, the insider does not become unprofitable to the firm $(W_I \leq P.b .f_I'(K, L_E))$ and subject to the relative profitability constraint, making the insider, at the least, as profitable as the marginal entrant $(W_I \leq W_E + C)$. Let (C) be the nominal cost of replacing an insider by an entrant. The real wage of the insiders,

$$W_I/P = min [b. (f'_I(K, L_E), (W_E/P) + (C/P)] \qquad (12a)$$

Assuming that the outsiders are perfect competitors for jobs, the entrant's real wage is equal to the outsiders' real reservation wage (R):

$$W_E/P = R. \qquad (12b)$$

Combining the employment equation (10) with the wage equations (12a) and (12b) yields the locus of microeconomic equilibrium points, given by the equilibrium insider wage associated with any incumbent workforce, as pictured by the thick segment in figure (18).

In case the incumbent workforce (K) is less than the minimum sustainable incumbent work force (K_1), as illustrated in figure (18), the incumbent workforce is then sufficiently small, and the insider wage is set to equal to the cost of replacing an insider by an entrant $(W_E + C)$. The entrants in this case are profitable to the firm $(P.b.f'_E (K,0) > W_E)$. Therefore, all the incumbents are retained and some entrants are hired.

In case the incumbent workforce is larger than the minimum sustainable incumbent work force (K_I), where it lies in the range $K_1 \leq K \leq K_2$, the insider wage will be set to equal the marginal product (adjusted for firing costs) of the incumbent workforce. The reason for which is that the incumbent workforce is sufficiently large so that entrants would not be profitable to the firm $(P.b.f'_E (K,0) < W_E)$. Therefore, the insider sets his wage without reference to its replacement cost. In which case, all the incumbents are retained and no entrants are hired. Note that at wage $(P.b.f'_I (L_I,0) = W_I)$, all the incumbents are retained and the firm will have no incentive to hire entrants.

Moving from the microeconomic level to the macroeconomic level illustrated in figure (19), the horizontal sum of each firm's equilibrium locus *ABC* has been taken to obtain the labor market equilibrium locus *DEF*. Let (K^*) be the aggregate incumbent workforce and (W_I^*) be the equilibrium insider wage. The corresponding equilibrium point is denoted by (e_I). At the equilibrium insider wage (W_I^*), all insiders are retained. Given the labor supply curve (*LS*), workers who will remain unemployed denoted by (u) [62].

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[62] Ibid., p. 41.

Figure 19: Labor Market Equilibrium

Source: Assar Lindbeck, Dennis J. Snower, **The Insider-Outsider Theory of Employment and Unemployment**, The MIT press, Cambridge, Massachusetts, 1988, p.2333.

Figure (19) illustrates when the supply side shocks affect the marginal product of labor, presented by the shift in the labor market equilibrium locus. Therefore, the economy's response to these shocks depends on three factors: (a) whether the shock is observed before the wage decision is made; the insider wage will be able to response to shocks that are foreseen before the wage decision. Had they been unforeseen, the model would generate employment fluctuations at constant insider wage. (b) Whether insiders are able to exert some control over labor turnover costs, the market power the insiders gain from the labor turnover costs enables them to prevent the underbidding by the laid-off workers. The insiders can do so by withdrawing their cooperation with the under-bidders to reduce the workers' productivity; by creating a hostile work environment for the under bidders aiming to raise their reservation wage, or by threatening to strike or work-to-rule. And (c) whether firing decisions are governed by a seniority system; insiders recognize in

advance with the help of the seniority systems the laid-off workers whose underbidding activities are to be thwarted[63].

Assuming that these shocks were foreseen in the wage decisions, the insider will have the incentive to use the labor turnover costs, especially with the existence of the seniority system. In figure (19), the initial equilibrium is at point *(e₁)* where the incumbent workforce is the intermediate that lies between *($K_1 \leq K \leq K_2$)*. However, if an unfavorable supply-side shock occurs, the labor market equilibrium locus will shift from *DEF* to *DE'F''*. From figure (19) you see how, even though the incumbent workforce has decreased, the insider wage did not decrease in response to the supply side shocks. Therefore, laid-off workers could be willing to under-bid their wages to regain their jobs. The remaining insiders will work on preventing this wage underbidding by withdrawing the cooperation and harassing the under-bidders. Some workers are laid off, consequently, the labor-market equilibrium moves from point *(e_1)* to *(e_2)*.

In case, later on, a favorable supply-side shock occurs, shifting the labor marker equilibrium locus back out to *DEF*. In this case, the insider will exploit the situation to raise their wage. Consequently, the insider wage will increase and the employment level will remain unchanged. That's when the labor market equilibrium moves from point *(e_2)* to point *(E)*[64].

As the previous analysis elaborates, when the incumbent workforce is intermediate, where it lies in the range *($K_1 \leq K \leq K_2$)*, the favorable and unfavorable supply side shocks have asymmetric effects on wages and employment. In other words, unfavorable shock decreases employment, and favorable shock fails to increase employment. If both insiders and firms have power over the insider wage, then the unfavorable shock will reduce employment merely by more than the increase induced by favorable shock. We call this phenomenon "asymmetric persistence" of supply-side policy effects.

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[63] Assar Lindbeck, Dennis J Snower, **The Insider-Outsider Theory of Employment and Unemployment**, The MIT press, Cambridge, Massachusetts, 1988, p. 234.
[64] Ibid.

Figure (19) displays the movements between equilibrium (E') and (E) which illustrates the "symmetric persistence" of the supply side policy effects. This means that at $(W_I = W_E + C)$, the upward and downward shifts of the equilibrium locus results in variations in employment at constant real wages.

"Thus, a succession of downward and up-ward shifts of the equilibrium locus yields a wage employment ratchet, characterized by an upward trend in wages and a downward trend in employment. This ratchet disappears once the insider wage reaches the level $(W_E + C)$. The reason is that the insiders can-not raise their wage above this level, for otherwise they would be replaced by outsiders"[65].

The following discussion will restrict the attention to the effect of various supply and demand policy implications on current wage and employment. First, the supply side policies can be grouped in the following three headings: (1) employment promoting policies, (2) power reducing policies, (3) enfranchising policies.

Employment-promoting policies: These policies are designed to make all workers, including insiders, entrants and outsiders, more profitable to the firm. One example is the government infrastructure investment that gives rise to an increased availability of particular government goods and services to the private production sector; such as roads, railways, harbors, sewage systems, and police services[66]. Another example is domestic competition-promoting policies and measures to open the economy to foreign competition. Lowering the administrative restrictions on import flow or some tariff reductions, that increases the number of firms in the market. It results in raising the price elasticity of product demand, where buyers become more price-sensitive and will change their behavior rapidly in response to higher wages. Since monopolists employ fewer workers than in more competitive markets, the raise in price elasticity would eventually lead to a fall in the index of

[65] Assar Lindbeck, Dennis J. Snower, "Long-Term Unemployment and Macroeconomic Policy ", **The American Economic Review**, vol. 78, No. 2, May 1988, p.42.

[66] Assar Lindbeck, Dennis Snower, " Demand- and Supply-Side Policies and Unemployment: Policy Implications of the Insider-Outsider Approach ", **The Scandinavian Journal of Economics**, vol. 92, No. 2, June, 1990, p. 295.

monopoly power. Employment is largely determined by output, the more output a firm produces the more labor it will require. If output is lower for a monopolist it can also be assumed that employment will also be lower. This policy shifts the aggregate labor demand function upwards. Since a fall in the monopoly power stimulates employment by raising the marginal product of labor, and the firm sets its total employment so that the marginal value product of labor is equal to the nominal labor costs.[67].

Power reducing policies: these policies aim to reduce the gap between the insider and outsider demand curves. As a result the market power of the insider will be admonished, in the sense that they try to limit the preferential treatment insiders receive in the labor market.[68] The power reducing policies contain a variety of practices that stretch from softening existing job security legislation, such as reduction of severance pay or a simplification of legally mandated firing procedures to legal restrictions on strikes. The result of such policies is a decrease in the firing cost which could lead to an increase in the expected marginal value product of labor. Therefore the labor demand relation might have an upward shift. In addition if the firing cost decreased, more insiders will get fired in a bad state, which might lead to a decrease in the insiders' wage demand. The expected result of such reform is to generate a downward shift of the wage setting curve.

Power reducing policies cannot be considered as Pareto Improvement policies[69]; the beneficial party in such case is the outsider, whereas the insider will suffer from reduction in its real wage and job security. In other words, these policies aim to increase the outsiders' chances of employment where the insider will suffer from a decrease in their real wage and job-security level. Consequently, the insider tries to resist the power reducing policies' implantations through applying different rent-creating activities, such as engaging in more litigation over firing decisions.

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[67] Assar Lindbeck, Dennis J. Snower, "Macroeconomics policy and insider power", **The American Economic Review,** vol. 79, No. 2, May 1989, p. 374.

[68] Assar Lindbeck, **Unemployment and Macroeconomics**, The MIT press, Cambridge, Massachusetts, 1993.pp.157 -160.

[69] An action done in an economy that harms no one and helps at least one person.

Therefore, the expected firing cost witnesses an increase. The power-reducing policies will then succeed in stimulating employment, provided that the direct effect of these policies on the firing cost is greater than the countervailing indirect effect via insiders' increased rent creation[70].

Enfranchising policies, aims to raise the potential marginal value products of the outsiders. One policy concerns *profit sharing plans of labor remuneration;* which aims to give workers a share of the firms' profits, so that wages would fall automatically in response to negative profitability shocks. Government can encourage firms to apply such plans by a variety of tax incentives. It is assumed that each employee's pay is the sum of the time rate base wage and the profit sharing component, which is the percentage of the firms' profit (constant profit sharing coefficient). Note that the profit sharing coefficient; predetermined in the wage-employment determination process, can be influenced by the government. However, the base wage is the outcome of the negotiations between the firm and its insiders. Therefore, we conclude that the greater the profit sharing coefficient, the lower the wage base and the greater the employment level[71]. Furthermore, if the profit sharing component of the employee's pay is relatively large, the marginal cost of labor (base wage) will be relatively small, which will induce the firm to hire more outsiders.

However, if the profit sharing was not sufficient then there will be no Pareto-improving. In other words, the outsider opportunity to enter the firm will be higher and the insider will face some decrease in wage level. In this event, insiders will participate in rent-seeking activities to prevent the recruitment of new workers. We conclude that the result of these policies depends on the impact of the direct and indirect influences; directly through the effect of the profit sharing plans working on reducing the marginal costs of hiring new workers, and indirectly through working on the ability of insiders to participate in rent seeking activities which increase the marginal cost of hiring.

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[70] Assar Lindbeck, Dennis Snower, " Demand- and Supply-Side Policies and Unemployment: Policy Implications of the Insider-Outsider Approach", **The Scandinavian Journal of Economics**, vol. 92, No. 2, June 1990, pp. 296-297.

[71] Ibid., p. 298.

Another policy is *the apprenticeship systems*. Government support systems, which aim to lengthen the initiation period since throughout this period, new workers acquire the productive skills and the ability that allows them to participate in rent seeking activities. The apprenticeship systems generate longer periods for the entrants wage contracts, which result in reducing firms' per period marginal cost of hiring. That indicates that the firm takes advantage of the insider-entrant differential wage within this period[72].

Another policy is *the vocational training programs*, these gain their importance by providing training programs that are run or subsidized by government to support the general skills and firm specific skills to improve the outsiders' productivity and consequently decrease the unemployment level. Vocational training programs will shift the entrant demand curve upward, if the entrant wage does not increase in proportion, the firm will lean to hiring more entrants. Eventually, these entrants will become insiders. Due to the fact that insider group grows larger, insiders try to set their wages, aiming to retaining their jobs, and consequently maintain the low level of unemployment[73].

The fourth policy is *modifying government measures to reduce barriers to the entry of a new firm*. It is considered an effective policy since new firms do not contain insiders, making this a great opportunity to create new jobs. The government applies this policy through (a) dismantling government regulations governing the creation of new firms; (b) increasing competition among financial institutions governing the incentives to reduce credit restrictions of new firms; (c) changing the taxes systems (profit taxes, income taxes, capital gain and wealth taxes) to put new firms at a less of a disadvantage vis-à-vis the established firms; (d) taking legal measures to reduce the industrial, occupational and geographic coverage of union

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[72] Assar Lindbeck, Dennis J. Snower, "Macroeconomics policy and insider power", **The American Economic Review,** vol. 79, No. 2, May 1989, pp. 373-375.

[73] Assar Lindbeck, Dennis J Snower, **The Insider-Outsider Theory of Employment and Unemployment**, The MIT press, Cambridge, Massachusetts, 1988, p.264.

wage agreements[74]. The outcome of these policies would be a direct stimulation in employment, through increasing the number of firms in the economy. This will create a shift in the aggregate labor demand relation rightwards, generating more employment in any real wage level, by reducing the firms' monopoly power and thereby increasing the marginal value product of labor would.

The discussion suggests that the supply-side policies can stimulate employment by increasing the workers' productivity, by reducing the market power of insiders and by enfranchising the outsiders. Nevertheless, these policies are not Pareto improving; the insiders' wage level might decrease which will induce them to engage in rent creating activities. As a result, the overall employment gains will be decreased. The demand side policies, however, work on improving the outsider employment issue without making the current insider worse off.

The following discussion will briefly go through the effects of demand-side macroeconomic policies on the labor market. One of the primary assumptions in macroeconomics is that the transmission of product demand changes to employment is automatic. In other words, if the product demand increases will perpetually increase the demand for labor. Therefore the product demand level can be used as a shift parameter in the labor demand curve. Lindbeck and Snower explained that the product demand capability to shift the labor demand curve depends on number of transmission channels. First, observe how parameter (A) of the product demand function [equation (1)] does not enter the labor demand relation [equation (9)]. Based on the firm's imperfectly competitive behavior, it is concluded from the downward sloping aggregate labor demand curve [equation (9)], an increment in the product demand will raise the employment without causing a counter-cyclical real wage movements[75] only if the labor demand curve shifts outwards. This occurs exclusively

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[74] Ibid., p.265.

[75] In the Keynesian and new classical models the transmission of product demand changes to the labor market generally involves counter-cyclical real wage movements, That means the real wage and employment move in inverse directions. However this predication appears to be conflict with a large body of evidence especially on U.S real wages, where real wage movements are a-cyclical or pro-cyclical. Therefore Lindbeck and Snower worked on the effectiveness of demand management policies under wage-price flexibility which depends on number of supply-side transmission channels.

if (1) the price elasticity of product demand (ŋ) increases, (2) the number of firms (*M*) increases, or (3) the marginal product of labor (*f'*) increases[76].

This means that the position of the aggregate labor demand curve does not depend on product demand independently of the transmission channels above. It also means that the intuition underlying this result is not compatible with a very standard formulation of aggregate labor demand relation in much of the macroeconomic literature, [*N = A.L (W/P), N'<0*]. Where the labor demand is a function of the real wage and a shift parameter *(A)* in the product demand function might be misleading.

Lindbeck and Snower mostly emphasized on the role of the number of firms (*M*) and the marginal product of labor (*f'*) as channels of transmissions. They believe that expansionary product demand management policy can create incentives for the entry of new firms. Resulting in increasing the demand for labor associated with any given real wage, and increasing the marginal product of labor; either directly, by government policies which augment the industrial infrastructure of the economy or indirectly, when the policy leads to a rise in the use of factors complementary to labor or to a fall in the use of substitutes for labor.

In other words, the indirect effect on the marginal product of labor can be influential when there is excess capital capacity and the product-demand stimulus raises firms' rate of capital utilization. Therefore workers are recalled to operate unmanned machines and reestablish existing assembly lines. The key point here is that the plant and equipment brought into use in the course of cyclical upswings are usually complementary to labor. In other words, the rise in the capital utilization rate may be expected to raise the marginal product of labor.

First channel involves a change in the rate of capital utilization. The demand management policies are able to raise employment at constant real wages when there is excess in capital, however not be able to do so at full capacity utilization.

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[76] Assar Lindbeck, Dennis J. Snower, "Macroeconomics policy and insider power", **The American Economic Review,** vol. 79, No. 2, May 1989, p. 374.

"Under excess capacity, an increase in employment is accompanied by an increase in capital utilization, and thus the slope of the labor demand curve depends not only on the response of the marginal product to a rise in employment, but also on the response of the marginal product of capital. Under diminishing returns to labor, the marginal product of labor response is negative; but when labor and capital are Edgeworth complements, the marginal product of capital is positive. In practice, the excess capital that is brought back into use at the end of a recession - when workers are recalled to man vacant machines and to bring existing assembly line back into operation- tends to be highly complementary with labor. Then the marginal product of capital may will be as large as, or even dominate the marginal product of labor, so that the labor demand curve be flat or even slope upwards".[77]

Therefore the first demand side policies regard the raise in the marginal product of labor by increasing the rate of capital utilization.

"Assuming that the capital brought back into operation is complementary with labor, the insider and entrant labor-demand curves (in contrast to those pictured in Figure 3)(figure 19) may be upward sloping at cyclically low levels of capital capacity utilization and downward sloping only at full capacity utilization. Accordingly, the labor-market equilibrium locus (in contrast to that pictured in Figure 4) (figure 20) may have both upward- and downward sloping portions. This means that the demand side policies above can move the labor-market equilibrium point along either an upward- or a downward-sloping labor market equilibrium locus"[78].

The Second channel operates through the entry and exit of firms. This channel illustrates how a product demand shock may lead to the entry or exit of firms, which results in affecting the aggregate labor demand relation. Lindbeck and Snower argue that, if nominal wages are sluggish relative to prices in the short run, then the short-run effect of an expansionary product demand shock would yield a temporary decrease in the real wage and an increase in profit.

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[77] Assar Lindbeck, Dennis J. Snower, " How are Product Demand Changes Transmitted to the Labour Market? " **The Economic Journal**, vol. 104, No. 423, March 1994, p. 394.

[78] Assar Lindbeck, Dennis J. Snower, "Long-Term Unemployment and Macroeconomic Policy ", **The American Economic Review**, vol. 78, No. 2, May 1988, p. 43.

The general idea of this mechanism is that an increase in product demand will lead to an increase in profit, which in turn induces the entry of firms. Then the entry of new firms, leads to an increase in the employment of entrant workers who receive the reservation wage. After the initiation period, new workers will turn into insiders, and will earn the insider wage. As a result, the market will witness an outward shift of the aggregate labor demand relation. In the longer run, wages and profits fall to their original level. Then each firm's employment will return to its original level and the entry of firms cease. Some recently entered firms remain operative in the market, and the long- run increase in the number of firms sustains the outward shift of the aggregate labor demand curve[79].

In general, the increase in the number of firms has two effects on aggregate labor demand: (a) a direct effect, whereby new firms create new employment, and (b) an indirect effect, whereby the entry of firms influences the firm's individual price elasticity of product demand and consequently affects the labor demand. In the sense, if the new firms start to compete with the old firms, the number of competing sellers in product market will increase, which will make each seller's product demand relation more elastic. Consequently, the measure of the monopoly power will decrease and the firm will have more incentive to demand more labor than they otherwise would.

The final channel is through the increase in the government expenditures that take the form of industrial infrastructure investment. This will result in an increase in the marginal product of labor, thereby shifting the labor demand curve[80]. Lindbeck and Snower emphasized that the government expenditures on industrial infrastructure have larger effect on the labor market than the government expenditures on goods. The latter government expenditures are not complementary to labor such as tax reduction and increased transfer payments. An expansionary product demand shock may shift the aggregate labor demand relation outwards by increasing the use of factors complementary with labor or by curtailing the use of substitutes for labor.

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[79] Assar Lindbeck, Dennis J. Snower, " How are Product Demand Changes Transmitted to the Labour Market? " **The Economic Journal**, vol. 104, No. 423, March 1994, p.397.
[80] Ibid.

This transmission mechanism can be formed in an increase in the availability of particular government goods and services to the private production sector such as roads, railways, harbors, sewage systems, police and fire services.

Lindbeck and Snower assumed that each firm uses the services of two factors of production: labor *(L)* and another factor *(X)*. Let *(X)* be government spending on industrial infrastructure which has direct and positive effect on the marginal product of labor. The level of *(X)* is exogenous to the firm's decision making. Let the firm's production function be

$$q = h\,(L,X), \qquad h_L, h_X > 0, \qquad h_{LL},\ h_{XX} < 0 \quad and \quad h_{LX} > 0.$$

Observe that when *(L)* and *(X)* are complements ($h_{LX} > 0$), any increase in the government spending *(X)* will shift the labor demand curve outwards. Conversely when *(L)* and *(X)* are substitutes ($h_{LX} < 0$), any fall in the government spending *(X)* will shift the labor demand curve outwards. We conclude that the governmental investment in industrial infrastructure will results in an increase in the marginal product of labor and thereby shifts the labor market equilibrium locus upwards. Conversely, any fall in the government spending on the industrial infrastructure will shift the labor demand curve inwards. The resulting effects on wages, employment and unemployment are basically the same as the effects of the supply-side policies considered above.

CHAPTER FOUR

EMPIRICAL ANALYSIS

5.1. THE PRESENTATION OF THE MODEL AND DATA DESCRIPTION

This study empirically analyzes the main hypothesis of the insider-outsider theory; trade unions have a significant positive effect on the unemployment rate. In this study, I use three groups of countries with different unemployment experiences for the period of 1985-2013 on an annual basis by applying panel data method.

The first group includes the three large continental countries in Europe (Spain, Germany, and France). The unemployment rates for these countries increased steadily in the 1980s and remained very high. The Spanish unemployment rate, for instance, has been cut in half since its peak in the 1980s but still remains near 10 percent. In the countries of the second group (Ireland and Netherlands), unemployment continually increased till the early 1980s and steadily decreased towards 2004, when it was less than 5 percent in both countries. Sweden and Norway, which make up the third group, have consistently low unemployment rates, excluding the period of high cyclical unemployment at the beginning of the 1990s. Today, unemployment is below 5 percent in both countries.

This study uses the framework developed in Alsaraireh (2014)[1] with some modifications for the analysis.

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[1] He estimated the relationship between the rates of unemployment, the economic growth rate, foreign labor force, and government expenditure in Jordan for the period of 2000-2010. He has found significant negative correlation coefficient between unemployment rate and migration Labor force. He concludes that "…The negative correlation coefficient between foreign labor force (FR) and unemployed demotic labor force (UR) is agreed with Arouri (2007) & Awad (2011)". He also mentions that " the significant correlation and prediction relationship between unemployed labor force (UR) as a dependent variable and the government or public expenditure in Jordan (EXPR) variable as an independent variable , which means increasing expenditure lead to increase unemployment in the native labor force". I believe this model can be applied on the insider-outsider theory by considering the foreign labor force as the outsiders in the labor market.

Table (3) contains the variables used in the model and their descriptions. The data for the unemployment rate and gross domestic product are obtained from the World Bank Databases. The data for the public expenditure on labor market programs and the trade union density are from OECD Stat Database.

Table 3: Data Description

Variables	Description	Unit of Measure Used
Dependent Variable		
Unemployment rate (UN)	Unemployment rate (% of total labor force). Unemployment refers to the share of the labor force that is without work but available for and seeking employment.	Percentage
Independent Variables		
Gross domestic product (GDP)	GDP growth (annual %), is the sum of gross value added by all resident producers in the economy.	Percentage
Government expenditure on labor market (GOV)	Public expenditure on labor market programs (LMP). Public expenditure of LMP (% GDP)	Percentage
Trade Union Density (TR)	The percentage of paid workers who are union members in the labor market.	Percentage

5.2. ESTIMATION RESULTS

This section investigates the trade union effects on the unemployment rate within the framework of the insider-outsider theory. The expected estimation, within the theory, is to have a statistically significant positive relation between the trade union and the unemployment rate.

The regression results of the first group are given in Table (4). One unexpected result is about the relationship between unemployment rate and the trade union density. This result displays that the trade union density is a statistically insignificant source of the unemployment rate in these countries and the relation between the two variables is negative. This result implies that the increase in the trade union density does not make a positive contribution to the unemployment rate.

Table 4: The Estimation Results for the First Group
(Spain, Germany and France)

Dependent Variable : UN
Cross section fixed (dummy variables)
Method: Panel Least Squares
Sample: 1985 2013
Period Included: 29
Cross-sections included: 3
Total panel (balanced) observations: 87
White diagonal standard errors & covariance (d.f. corrected)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	4.832335	1.575185	3.067788	0.0029
GDP	-0.109437	0.143911	-0.760450	0.4492
GOV	3.018244***	0.489868	6.161347	0.0000
TR	-0.059941	0.060435	-0.991823	0.3242

R-squared 0.75
Adjusted R-squared 0.73

Note: *** Significance at the 1 % level; ** Significance at the 5 % level; *Significance at the 10 % level.

The trade union density ranges from 7% - 30% in these countries and as Lindbeck and Snower point out that the relationship between unemployment and trade unions depends on the trade union density, it is clear that the unionized workforce is sufficiently small and the outsiders, in this case, are profitable to the firm. The expected result is all the incumbents are retained and some entrants are

hired. With such small unionized workforce, the unionized workers will not be able to implement union activities (e.g. strikes and work out) in order to put pressure on firms, and eventually increase their wages.

Nor will they be able to effectively decrease the entrants' productivity by withdrawing their cooperation with the new entrants. Since this group of countries represents the case of a small-unionized workforce, then the result is in line with the insider-outsider theory. The importance of the unionized workforce size within the labor market has been emphasized on from different perspectives in the insider-outsider theory. That is, the unionized workforce determines the priority of the union. In other words, if the union membership is relatively low, the union will have the incentive to increase its membership, by supporting employment from the unemployed pool, as much as possible, rather than increasing the wage level. However, these countries are still suffering from high unemployment despite the fact that they don't have high formal unionization.

These countries have high "coverage rate"; indicates the proportion of the labor force that is covered under an unemployment insurance programs that would entitle them (workers who are unemployed through no fault of their own) to a future financial assistance, usually benefit funding is based solely on a tax imposed on employers by state governments. That means employees who are members of a union and employees who are not, are both covered by a collective agreement or a union contract. For example, only 10% of labors in France are officially unionized, but the coverage rate reaches 92%. Germany, Spain, and Belgium coverage rates also exceed the unionization rates. This coverage rate could be playing the same role as the trade unions, which causes the labor market to suffer from high unemployment rate.

On the other hand, the trade union density in the second group, ranges from 30% - 60%. The estimation results show that trade union density is a statistically significant source of the unemployment rate, and has a positive relation with the unemployment rate, table (5). According to these findings, as 1% increase in the trade union density causes a 0.13 % increase in the unemployment rate. This result perfectly fits the expectations within the insider-outsider theory. The union will aim

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to increase the utility of its current members by increasing their wages and supporting them through the process of gaining economic rent. That is, they will put pressure on the firm to collaborate with the union demands.

Table 5: The Estimation Results for the Second Group
(Ireland and Netherlands)

Dependent Variable : UN
Method: Panel Least Squares
Sample: 1985 2013
Period Included: 29
Cross-sections included: 2
Total panel (balanced) observations: 58
White diagonal standard errors & covariance (d.f. corrected)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-1.796390	0.824227	-2.179485	0.0337
GDP	-0.273067***	0.068858	-3.965651	0.0002
GOV	2.824755***	0.261759	10.79142	0.0000
TR	0.138926***	0.018869	7.362678	0.0000

R-squared 0.81
Adjusted R-squared 0.80

Note: *** Significance at the 1 % level; ** Significance at the 5 % level; *Significance at the 10 % level.

In this case, we can consider the incumbent workforce is intermediate. Small enough so that its marginal product of insider exceeds the insiders' reservation wage, yet large enough so that the marginal product of entrants falls short of the entrants' reservation wage. Here the insiders prevent all entry into the firm through their cooperation and harassment activities and set their wages so as to exploit all their marginal rent and retain their job. Therefore, the firm will not hire new entrants because the marginal product of an entrant is less than the entrant's reservation wage. Because when the workforce is "intermediate" worker receive their marginal product.

Here, the point is the harassment and cooperation activities by the unionized workforce are the main reason behind decreasing the marginal product of entrants.

Regarding the variable of public expenditure on labor market programs (GOV), I noticed a significant positive relation with the unemployment rate. In the first group, as 1% increase in the public expenditure causes a 3% increase in the unemployment rate, table (4). In the second group, as 1% increase in the public expenditure causes a 2.82% increase in the unemployment rate, table (5). At first sight, this might seem contradictory with the Keynesian approach to the government intervention. However, by looking in depth on the segmentation of this kind of public expenditures, you notice in table (6) how the government expenditures on **out-of-work income maintenance and support** category range from 50% to 75% of the total expenditures. This category mostly contains expenses on unemployment benefits. This is exactly what policy section emphasized on; that role of government is indeed very important in increasing the employment rate. However, it should be directed to becoming more active in areas such as the vocational training programs, the apprenticeship systems and the startup incentives and much more. Since the European labor market is characterized by high duration of unemployment benefits, and by spending the biggest amount of the government expenditure on this particular category, unemployment benefits will end up increasing the unemployment rate and worsening the labor market.

In the first and second group, (GDP) has negative relation with the unemployment rate. According to Okun's law, to achieve a 1% point decrease in the unemployment rate within a year, real GDP must grow approximately 2% points faster than the rate of growth of potential GDP over that period[2]. In other words, if the potential rate of GDP growth is 2%, then GDP must grow at an approximate 4% rate for one year, in order to achieve a 1 % point reduction in the rate of unemployment.

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[2] Linda Levine, "Economic Growth and the Unemployment Rate ", Congressional Research Service, January 7, 2013. P.3.

Table 6: The Average of Public Expenditure on LMP
1985-2013, (Percentage of the Total)

Labor market Programs	Spain	Germany	France	Ireland	Netherlands
Administration	0.18	0.24	0.10	0.18	0.39
Training	0.35	0.39	0.15	0.37	0.13
Employment incentives	0.11	0.06	0.19	0.05	0.02
Sheltered and supported employment and rehabilitation	0.01	0.1	0.031	0.00	0.53
Direct job creation	0.20	0.17	0.08	0.30	0.13
Start-up incentives	0.02	0.04	0.09	0.01	0
Out-of-work income maintenance and support	1.30	1.59	2.21	1.94	2.14
Early retirement	0.16	0.10	0.04	0.06	0
Total	2.42	2.71	2.91	2.96	3.37

Source: OECD, "Public expenditure table", 2016, online
http://stats.oecd.org/Index.aspx?DatasetCode=LEVEL#, 17.04.2015.

Sweden and Norway of the third group are considered a special case. Since neither countries did suffer from unemployment in the 1980s, and till this day their unemployment rate remains around 5% percent. The result of this model shows that, having a sufficiently high level of union membership ranging from 65% - 85%, the union density has a significant negative relation with unemployment.

The estimation results of the third group are given in table (7), as 1% increase in the trade union density causes a 0.48% decrease in the unemployment rate, also as 1% increase in public expenditure on LMP causes a 2.82% increase in the unemployment rate. Yet the gross domestic product has an unexpected sign although it is significant at 5% level, as 1% increase in gross domestic product causes a 0.31% increase in the unemployment rate.

Table 7: The Estimation Results for the Third Group
(Sweden and Norway)

Dependent Variable : UN
Cross section fixed (dummy variables)
Method: Panel Least Squares
Sample: 1985 2013
Period Included: 29
Cross-sections included: 2
Total panel (balanced) observations: 58
White diagonal standard errors & covariance (d.f. corrected)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	31.95217	3.058876	10.44572	0.0000
GDP	0.230407**	0.105273	2.188669	0.0330
GOV	2.371014***	0.348634	6.800858	0.0000
TR	-0.488664***	0.053405	-9.150207	0.0000

R-squared 0.71
Adjusted R-squared 0.68

Note: *** Significance at the 1 % level; ** Significance at the 5 % level; *Significance at the 10 % level.

Within the insider-outsider theory a relatively large number of union members is able to increase the unemployment rate or keep it as it is yet the unemployment rate is very low in these countries. Yet Lindbeck, Snower, Vetter and Andersen emphasized on the idea that the insider-outsider theory never explains a high employment level[3]. This is exactly the case of the third group. The following discussion will briefly discuss how these countries were able to keep their employment levels from falling.

In Sweden the level of union membership reached its peak of 86% in the 1995. The labor market in Sweden contains three main union confederations: LO (the Swedish Trade Union Confederation), SACO (the Swedish Confederation of

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[3] Henrik Vetter and Torben M. Andersen, "Do Turnover Costs Protect Insiders?" **The Economic Journal,** Vol. 104, No. 422 (Jan., 1994), pp. 124-130.

Professional Associations) and TCO (the Swedish Confederation of Professional Employees). These union confederations are divided along occupational and educational lines. Unemployment benefits are high in Norway and Sweden as in the EC countries; however, its duration is more limited. It has been observed that the unemployment benefit system is more strictly administrated in both countries than in most other countries in Europe. For instance, the unemployment benefits can be cut off if unemployed workers refuse to accept repeated job offers or offers to participate in retaining programs.

Assar Lindbeck argued that, aiming to neither have an unemployment benefit system that does not increase the unemployment rate nor induce unemployment persistence, the country must have an incentive to apply a system with small benefits and a short period during which the benefits may be received such as the applied system in the United States. He also argued that the country can apply a system with strictly administered benefits; in other words The unemployed worker often must continually prove that he or she has been actively searching for a job as a condition of continuing to receive unemployment insurance, to intense the people who refuse job offers or retaining will be denied from the unemployment benefits as the system in Norway and Sweden.

CONCLUSION

In the first part of the thesis, I have presented the theoretical dimensions of the insider-outsider theory. The insider-outsider theory is concerned mainly with the equality of opportunities in the labor market. It shows that outsiders may not have the opportunity to participate in the labor market on equal terms with the insiders, not only on account of job security legislation but also because insiders may have strong incentives to engage in discriminatory activities. Insiders believe that their jobs and wages are threatened, and that is why discrimination occurs and the unemployment rate may arise.

First, what makes the insider-outsider theory distinctive from the standard theories of wage bargaining is that it analyzes the source of the insider's market power in terms of labor turnovers costs (LTCs). The insider-entrant productivity differentials and the firing cost jointly determine the profitability of entrants relative to insiders, and consequently the degree of substitutability between alternative bargains for the firm. However, this implication lacks empirical assessment in the theory literature. It would be significant to examine whether the relative degree of employment persistence depends on the relative magnitude of labor turnover costs.

Second, direct tests of the insider-outsider theory await measurement of the labor turnover costs. Although some of these costs (such as severance pay, training costs, costs of strikes and work-to-rule actions, and litigation costs) are often feasible to measure, others (such as cooperation and harassment activities and effort related costs of labor turnover) are much harder to capture. Since different labor turnover costs often protect different sets of insider positions, these labor turnover costs are difficult to aggregate. Most empirical insider-outsider models make no attempt to measure LTCs and often assume that these costs are very high so that the insider-employer bargaining may be portrayed in terms of bilateral monopoly power. Given the critical role of LTCs to the insider-outsider theory, this is a crucial omission, and data collection on these costs is extremely important.

Third, unions indeed provide an extra clout to the insiders' market power, and the insider-outsider theory provides a justification for the existence and behavior of unions although the insider-outsider theory is not a labor union theory. The study suggests an explanation of strike and lock-out threats in which labor turnover costs play an important role. The theory considers an economy in which firms engage in wage bargaining with their unionized employees. When the costs of hiring and firing generate economic rent which workers can exploit through their wage demand, strike threats and lock-out threats can be explained as rent seeking devices.

Fourth, the exercise of the insider market power indeed affects the "resilience" of a labor market since asymmetric wage response might occur if the labor union is dominated by insiders. Whenever the employment level is less than the insider membership, it reflects the willingness of the union to trade off wages for employment. The phenomenon of asymmetric and symmetric persistence of employment and unemployment stays largely unexplored. It would be interesting to explore whether the degree of asymmetric wage-employment responses depends on the size of labor turn over costs. Such analysis may shed light on the question why, over the past 30 years, European unemployment has tended to suffer from one recession to the next.

Fifth, for the downward-sloping aggregate demand curve, an increase in product demand can raise employment without necessarily generating a counter cyclical real wage movement only if the labor demand curve shifts outwards. This occurs only if the price elasticity of product demand increases, the number of firms increases and the marginal product of labor increases. Demand management policies which have "supply-side" effects on labor productivity may have a larger impact on employment than policies without such supply-side effects.

In the second part of the thesis, an empirical analysis has been conducted to test the insider-outsider theory with macro-data for number of European countries. The evidence is consistent with the insider-outsider theory, and especially with the

idea that the trade unions have a significant positive effect on unemployment rate. Yet the employment level and the insider wage depend on the size of the incumbent force within the firm. It has shown that insider power alone is not sufficient for the explanation for unemployment. Labor market institutional framework and laws might have more weighted role regarding the 1970s unemployment persistence in Europe. This analysis focuses on the mission of the public expenditures in the labor market where the findings of this study shows that the government expenditure is not playing in favor of unemployed labor force.

The insider-outsider theory is not just about European labor markets and European unemployment. Although job security legislation tends to be more stringent in most European countries than in the US, and although union density is usually higher and the coverage of union wage agreements is wider, labor turnover costs are a common feature of all labor markets. The insider-outsider theory is still in its infancy, and much remains to be done. It would be particularly important to explore the intertemporal implications of the analysis for wage and employment decisions, to integrate the labor market analysis in explicit macroeconomic models and to analyze the effectiveness of government policies in that context.

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