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# **Economists and Minimum Wage Laws**

*diplomová práce*

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Prohlašuji na svou čest, že jsem diplomovou práci vypracoval samostatně a s použitím uvedené literatury.

Tomáš Jirásek  
V Praze, dne 21. 12. 2012

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## **Abstract**

The minimum wage is a tool of public policy which despite being in favor of politics tends to be in displeasure of economists. Recent consensus study shows (Alston, 1992; Fuller, 2003) that consensus on minimum wage among economists has a tendency for weakening. The goal of my thesis was to map the consensus of economists on minimum wage in the course of the 20th century and to help to answer the question how the view of economists has changed on this topic and which events were of greatest influence. As a way of measuring the consensus I chose the studying of academic articles because it is the direct output of academic community. My study shows that from the 1930s we can see a constant strengthening of ideas that a minimum wage has a negative effect on economy.

Key words: minimum wage, consensus of economists

JEL Classification: A11: Role of Economists, J48: Labor Markets – Public Policy,

## **Abstrakt**

Minimální mzda je hospodářsko-politické opatření, které je oblíbeným nástrojem politiků, ale zároveň je v nelibosti u ekonomů. Poslední studie zabývající se konsenzem ekonomů na různá hospodářsko-politická opatření ukazují, (Alston, 1992, Fuller, 2003) že konsenzus ohledně minimální mzdy slábne. Cílem mé práce bylo zmapovat konsenzus ekonomů na minimální mzdu v průběhu 20. století a pomoci tak zodpovědět otázku, jak se měnil pohled ekonomů na tuto problematiku a jaké události na to měly největší vliv. Jako způsob měření konsenzu jsem si vybral studium akademických článků, tedy přímý výstup akademické obce. Můj výzkum ukazuje, že od 30. let 20. století sílilo přesvědčení, že minimální mzda má negativní účinky na ekonomiku.

Klíčová slova: minimální mzda, konsenzus mezi ekonomy

JEL Klasifikace: A11: Postavení a práce ekonomů, J48: Trh práce – Hospodářská politika

## Table of Contents

Introduction .....	6
1. Review of Consensus Literature .....	7
2. Methodology of Research .....	18
2.1. Scoring of articles.....	19
2.1.1. Example 1 – Article with Positive Effect of Minimum Wage .....	20
2.1.2. Example 2 – Article with Mixed Effect of Minimum Wage.....	20
2.1.3. Example 3 – Article with Negative Effect of Minimum Wage.....	21
2.2. Rhetorical Evolution of Terms: From Anti-Sweating Agitation through Living Wage to Minimum Wage .....	21
3. Survey on Minimum Wage Consensus: 1910 - 2009 .....	23
3.1. Empiric results.....	23
3.1.1. The Period of 1910 – 1920: Looking Back to Origins of Minimum Wage .....	24
3.1.2. The Period of 1920 – 1930 .....	28
3.1.3. The Period of 1930 – 1940: The Age of F. D. Roosevelt .....	31
3.1.4. The Period of 1940 – 1950: The FLSA in the Process and the Era of Marginalism .....	33
3.1.5. The Period of 1950 – 1960: The Third Decade of FLSA.....	37
3.1.6. The Period of 1960 – 1970: The Expanding of FLSA .....	39
3.1.7. The Period of 1970 – 1980: The Reign of Empiricism .....	42
3.1.8. The Period of 1980 – 1990: Nightfall of Minimum Wage? .....	45
3.1.9. The Period of 1990-2000: The Rise of New Economics of Minimum Wage.....	47
3.1.9.1. Studies by Card and Krueger in the 1990s.....	48
3.1.9.2. My Research in the 1990s .....	54
3.1.10. The Period of 2000 – 2009: Everything back on Track? .....	56
4. Summary .....	57
5. References .....	62
6. Appendix .....	69

## Introduction

What percentage of economists are of the opinion that the minimum wage has a positive effect on employment? What percentage of economists think that minimum wage can help teenagers and low-skill workers? I started to ask these questions after having read the petition for increasing of minimum wage *Hundreds of Economists Say: Raise the Minimum Wage* (Economic Policy Institute, 2006) which was signed by several Nobel Prize winners and many professors of economics from prestige American universities. This petition has changed my view on academic economists.

At the beginning of my research I have found several studies, which focus on consensus among economists on different public policy questions (Kearl, 1979; Frey, 1984). These studies show that the consensus on minimum wage is a strong one. Nevertheless, as we approach the present it seems that this position is weakening in the course of time. My goal in this thesis was to map the evolution of consensus on minimum wage in the 20th century. What was the view of economists on minimum wage like in the time of its introducing? Why does this consensus in the last 20 years tend to weaken? These are the questions I would like to answer.

As a method of researching my answers I have chosen directly the output of academic community, in other words its articles concerning the minimum wage. From broader list of articles I chose 263 ones which I analyzed in details. In this analysis I focused not only on the fact if the minimum wage has a positive or negative effects on economy, but also on the fact if when formulating the hypothesis or explaining the results an economics theory is used, and if so in which way.

Results of my research suggest that from 1930s we can observe a permanent growth of articles showing negative effects of minimum wage. The only exception can be seen in 1990s which I am going to deal in appropriate chapter.

The structure of my thesis is as follows. Chapter 1 is devoted to the survey of articles mapping the consensus among economists on various public policy problems. In Chapter 2 I described in details the methodology of my research. Chapter 3 is devoted to the presentation of the results in separate decades of the 20th century.

# 1. Review of Consensus Literature

*"If parliament were to ask six economists for an opinion, seven answers would come back - two, no doubt, from volatile Mr. Keynes."*<sup>1</sup>

*Paul Samuelson, 1966*

In the last 30 years the economic science has mapped the consensus of economists on various public policy steps. I have tried to put them into a time line and made a review of economists views on the problem of minimum wage. The first study (Kearl et al., 1979) was based on questionnaires which were sent to 600 members of the American Economic Association (AEA) in 1974. However only 211 cooperated. The respondents could choose from three types of answers.<sup>2</sup> The following table shows the obtained answers.

## 1 A Confusion of Economists?

Minimum Wage related survey statement						
Survey	Statement in exact wording	Responses		Mean Weight	Relative Entropy <sup>3</sup> [%]	Consensus rank in each survey
		Score	%			
Kearl et l., 1979	A minimum wage increases unemployment among young and unskilled workers	3	68	2.6	75	5-6
		2	22			
		1	10			

This table shows that consensus on minimum wage in 1979 was relatively high.<sup>4</sup> The lowest rate was reached among economists who worked for the government. Authors of this survey state that hypothesis on strong disagreement among economists is simply wrong.

They also claim:

*"Consensus tends to center on microeconomic issues involving the price mechanism while the major areas of disagreement involve macro-economic and normative issues. The normative nature of many issues also allows ideological considerations to become important."*<sup>5</sup>

<sup>1</sup> (Samuelson, 1966, p. 1629)

<sup>2</sup> Agreement on statement for 3 points, agreement with provisions for 2 points and disagreement for 1 point.

<sup>3</sup> This measure of consensus has a range from zero (no consensus) to one (perfect consensus). One interpretation of the measure is that questioning more than one economist would be redundant for questions with relatively high consensus. Conversely, for propositions with low measures, members of the profession can be regarded as entropic or without pattern in their responses.

<sup>4</sup> The highest rates of agreement were achieved by statements on negative relationship of duties on welfare and negative influence rent control on the quality of offered apartments. The lowest rates of agreement were achieved by statements on reduction of government expenditures and the statement that wage-price controls should be used to control inflation.

<sup>5</sup> (Kearl et al., 1979, p. 36)

Frey (1984) published *Consensus and Dissension among Economists* in 1984. Out of 2072 economists only 936 answered their questionnaire. The goal of this survey was to concentrate not only on the American economists but it tried to map consensus among European economists too.<sup>6</sup> The authors of this study applied the same methodology as the authors of previous one.

## 2 Consensus and Dissension among Economists

Minimum Wage related survey statement						
Survey	Statement in exact wording	Responses		Mean Weight	Relative Entropy [%]	Consensus rank in each survey
		Score	%			
Frey et al., 1984	A minimum wage increases unemploment among young and unskilled workers	3	41.3	2.06	83	14-16
		2	25.5			
		1	31.5			

This table suggests that 66.8 percent of economists believe that minimum wage has negative effects. Generally, the survey shows wide consensus in questions regarding price mechanism which is perceived as effective by the respondents.<sup>7</sup> In the second part of this article we can see the comparison of consensus among economists from different countries.

## 3 Consensus And Dissension among Economits - Responses according to Country

Survey	Statement in exact wording	Score	Responses [%]			
			USA [n=211]	Austria [n=91]	France [n=162]	Switzerland [n=199]
Frey et al., 1984	A minimum wage increases unemploment among young and unskilled workers	3	66.4	29.7	16.7	35.6
		2	21.3	34.1	21	30.7
		1	10	35.1	59.8	32.2

This table shows that there are huge differences among chosen countries. While 66.4 percent of chosen economists in the USA agreed that the minimum wage hurts the young and low-skilled workers, only 16.7 percent of chosen economists from France are of the same opinion. This shocking difference is not unique.<sup>8</sup>

The authors try to provide an explanation:

<sup>6</sup> Authors asked economists from France, Germany, Switzerland and Austria.

<sup>7</sup> Economists agreed on negative effect of duties on economic welfare or negative effect of rent control.

<sup>8</sup> Very interesting is the fact that only 26.5 percent of chosen economists from France think that duties have negative effect on economic prosperity. However, 79.2 percent of American agree with that statement.



*“It turns out that the American, German, and Swiss economists tend to support the market economy and competition, and therewith typically neoclassical propositions, while the French and Austrian economists are more inclined to support government interventions into the economy.”<sup>9</sup>*

The cornerstone of the problem is the different approach to public policy in particular countries<sup>10</sup>.

Block and Walker (1988) focus on Canadian consensus in their survey. 443 economists from Canadian Economics Association were involved in this research. Authors used the same methodology as the authors in previous studies. And the result was as follows:

#### 4 Entropy in the Canadian Economics Profession

Minimum wage related survey statement						
Survey	Statement in exact wording	Responses		Mean Weight	Relative Entropy [%]	Consensus rank in each survey
		Score	%			
Block and Walter, 1988	A minimum wage increases unemployment among young and unskilled workers	3	68.2	2.53	62	4
		2	16.9			
		1	14.7			

This table shows that almost 85 percent of addressed respondents agree with the statement that minimum wage has negative effects on young and unskilled workers.

S. Geach a W. Reekie (1991) published *Entropy in South African Economics: A survey of Consensus and Dissent* in 1991. Their study shows that the participants agree on price mechanism as an allocative device and therefore it is identical with previous studies which also show that the addressed economists agree on most problems from microeconomics.

<sup>9</sup> (Frey et al., 1984, p. 987)

<sup>10</sup> Frey (1992) describes the differences between American economists and European economists in his article *Economics and Economists: A European Perspective*. The differences come from the size of the market itself. The USA has one large, uniform market while Europe has smaller, national ones. He also tries to describe the output of an economist. In America, it is the number of written articles and quotation in impact journals. On the other hand the output of the European economist is his achieved position on faculty or in politics. Frey and Eichenberg ends their article with a statement that a system in the USA force economist to specialize on writing of papers while the European economists are forced to have a broader scope of knowledge, because they have to take part in public policy.

## 5 Entropy in South African Economics

Minimum wage related survey statement						
Survey	Statement in exact wording	Responses		Mean Weight	Relative Entropy [%]	Consensus rank in each survey
		Score	%			
Geach and Reekie, 1991	A minimum wage increases unemployment among the young, the black and the unskilled sections of the population	1 (agree)	42.77	1.84	70	2
		2	44.09			
		3	4.20			
		4	5.51			
		5 (disagree)	3.41			

Almost 90 percent of African economists agreed with the statement that minimum wage has negative effects on economy.

Alston's study (1992) is linked with Kearn's study (1979) and it is in fact update of past numbers. The result on minimum wage question is as follows:

## 6 Is There a Consensus Among Economists in the 1990's?

Minimum wage related survey statement						
Survey	Statement in exact wording	Responses		Mean Weight	Relative Entropy [%]	Consensus rank in each survey
		Score	%			
Alston et al., 1992	A minimum wage increases unemployment among young and unskilled workers	3	56.5	2.36	74	12-13
		2	22.4			
		1	20.5			

The authors also tried to compare these results with the ones from 1979.

## 7 Is There a Consensus Among Economists in the 1990's? – Comparing responses in time (1976 – 1990)

Minimum Wage related survey statement							
Statements	Response	Kearl et al., 1979 (1976)			Alston et al., 1992 (1990)		
		%	Mean	Relative Entropy [%]	%	Mean	Relative Entropy [%]
A minimum wage increases unemployment among young and unskilled workers	3	68	2.6	75	56.5	2.36	74
	2	22			22.4		
	1	10			20.5		

In this table we can see small weakening of consensus with regards to negative effect of minimum wage. The authors try to find out how big the impact of time is when the economists attained their highest degree.

### 8 Is there a Consensus Among Economists in the 1990's ? - Vintage of Degree

Minimum Wage related survey statement					
Statement	Response	Highest degree			
		Prior to 1961	1961-1970	1971-1980	1981-1990
A minimum wage increases unemployment among young and unskilled workers	3	56%	46%	67%	56%
	2	26%	28%	19%	19%
	1	19%	25%	14%	25%

In all monitored time areas the consensus on minimum wage remains very high. The authors come to this conclusion:

*“Those who received their highest degree prior to 1961 or in the 1960's showed a greater tendency to disagree with the notion of a selfcorrecting economy and the existence of a natural rate of unemployment. There was also a higher proportion among these two groups who generally agreed with the stimulative impact of fiscal policy. With respect to monetary considerations, the older one's highest degree the greater the tendency to disagree with the notion that inflation is a monetary phenomenon and that the Fed should follow a money growth rule.”<sup>11</sup>*

Whaples (1996) introduces established trend among labor economists.

### 9 Is There Consensus among American Labor Economists?

Minimum wage related survey statement						
Survey	Statement in exact wording	Responses		Mean Weight	Relative Entropy [%]	Consensus rank in each survey
		Score	%			
Whaples, 1996	A minimum wage increases unemployment among young and unskilled workers	Yes	83	x	x	x
		No	13			

As we can see from the results most of the addressed labor economists think that the minimum wage increases unemployment. This study also suggests that addressed economists connect 10 percent increase in minimum wage with 2 percent decline in employment.

Following statement is worth noting:

*“[B]ecause of the belief that minimum wage increases will moderately reduce employment, the majority of labor economists surveyed (57 percent) feel that "the current minimum wage should be*

<sup>11</sup> (Alston et al., 1992, p. 208)

*increased." There is a relationship between economists' beliefs about the magnitude of the employment loss from a minimum wage increase and the beliefs about the advisability of increasing the statutory minimum. Those who generally disagree with the idea of increasing the minimum think that a ten percent increase will reduce teen employment considerably. Their median response is a three percent drop. Those who generally agree that the minimum should be increased think that employment will fall only one percent. The debate about this magnitude is crucial.*"<sup>12</sup>

We can say that even economists who favor with in increasing the minimum wage are aware of the fact that it will cause the decline in employment.

Fuchs (1998) focuses on consensus among labor economists from 40 leading universities in the USA. The survey was organized in the form of a questionnaire where the given answers got the specific number of points.<sup>13</sup>

#### 10 Economists' Views about Parameters, Values, and Policies

Minimum wage related survey statement						
Survey	Statement in exact wording	Mean	St. Deviation	Percentils		
				25th	50th	75th
Fuchs, et al., 1998	Increase in minimum wage from \$4.25 to \$5.15	53	30	37	76	35.6

This table shows that addressed labor economists are indifferent to the specified increase of minimum wage.<sup>14</sup> The authors also find an interesting connection between the values and economic policy position of the economist.

*"One of the most important empirical results of this study is the strong correlation between economists' policy positions and their values... Many economists define a "value" as a well-specified objective function... If most economists are consequentialists, differences in values could reflect differences in judgments about the consequences that flow from them. For instance, judgments about the effects of income redistribution on political harmony, crime, family stability, or investment in children could easily influence preference about alternative income distributions. Thus, many positive questions may be embedded in the values questions."*<sup>15</sup>

<sup>12</sup> (Whaples, 1996, p. 730-731)

<sup>13</sup> The answer „strongly opposed“ was given 0 points, the answer “strongly favor“ had the value of 100 points and “neutral answer“ had value of 50 points.

<sup>14</sup> The result of the survey also suggests that labor economists are againts eliminating job training. On the other hand they are indiferent on question if the trade union should be stronger or not.

<sup>15</sup> (Fuchs et al., 1998, p. 1415)

Fuller and Stevenson (2003) continue in the research which began with Kearl's article in 1979 and Alston's article from 1992. Their survey which was sent to one thousand economists from AEA. Response rate was 30.8 percent.

#### 11 Consensus among Economists: Revisited

Minimum wage related survey statement						
Survey	Statement in exact wording	Responses		Mean Weight	Relative Entropy [%]	Consensus rank in each survey
		Score	%			
Fuller and Geide-Stevenson, 2003	A minimum wage increases unemployment among young and unskilled workers	A (3)	45.6	2.19	4.00	28-32
		A/P (2)	27.9			
		D (1)	26.5			

When we compare the results of the studies by Fuller (2003) and Alston (1992) we can see the declining in the consensus regarding the minimum wage. The highest agreement rate was in the question about liberalization of international trade and the lowest level of agreement was in macroeconomic questions.

Fuller and Stevenson confirm the conclusion of the previous studies that economists acknowledge general efficiency of market mechanism and their study also shows that the level of skepticism about questions from microeconomics tends to weaken.

*"Nowhere is this more evident than in the area of international economics where the efficiencies of open economies are firmly embraced. Equally interesting is the assessment of the potential costs associated with the liberalization of international trade and capital flows a degradation of national labor and environmental standards, large trade deficits, international financial stability and an increasing degree of inequality in the distribution of income. Economists kartely disagree that such costs are significant or even existent."*<sup>16</sup>

D. Klein and C. Stern (2006) published article *Is There a Free – Market Economists in the House?*, where they presented the results from their questionnaire which was sent to the members of AEA and concerned 18 specific questions about government interventions. Their study is important because they manage to break down the data according to political preferences of the respondents.

<sup>16</sup> (Fuller et al., 2003, p. 385)

## 12 Is There a Free - Market Economists in the House?

Minimum wage related survey statement				
Survey	Statement in exact wording	Democrats	Republicans	Together
Klein and Stern, 2006	General agreement with minimum wage laws	2.25	4.07	2.83

The scale was from 1 to 5 while 5 was the maximum support for free market principles. The table shows that the Republicans are generally more against the minimum wage law than the Democrats.<sup>17</sup> Similar distribution of points can be found in following areas: air and water regulation or pharmaceutical market regulation. It is necessary to point out that in these area of questions the difference was not so big and both parties would rather prefer non market approaches.<sup>18</sup> Protectionism is the only theme in which the Democrats as well as the Republicans found an agreement on pro market solution.

In the end the authors come to a conclusion that the majority of economists in AEA are more inclined to interventionism.

*“Only a small percentage of AEA members ought to be called supporters of freemarket principles. Whether the AEA is, in this respect, representative of the economics profession is an interesting matter, but we doubt that the AEA is skewed to any great extent. It is puzzling, therefore, that there is a general impression that economists<sup>19</sup> tend to be supporters of the free market.”<sup>20</sup>*

*Do Economics Agrese on Anything? Yes!* by Whaples (2006) was another article on measuring consensus among economists. As many other studies this one also presents the survey from his questionnaire research which was sent to 210 Ph.D. economists from AEA. Only 77 economists cooperated on the question about the minimum wage law.

<sup>17</sup> Klein (2006) also states that left-wing economists are more likely to enter AEA than right-wing economists.

<sup>18</sup> Not a single one preposition got more than 3 points.

<sup>19</sup> Klein and Stern (2005) also examined economic opinions of members of the scholarly associations in anthropology, economics, history, legal and political philosophy, political science and sociology. Their survey shows that the Democrats dominate the social science since the 1970s. This study shows that Democrats are more intervencionist than Republicans. Economists, as a scientists, are the least in favor of intervencionism but even they belong to this group.

<sup>20</sup> (Klein et al., 2006, p. 25-26)

### 13 Do Economists Agree on Anything? Yes!

Minimum wage related survey statement			
Survey	Statement in exact wording	Answers	Reponses [%]
Whaples, 2006	The federal minimum wage in the U.S. should be:	eliminated	46.8
		decreased	1.3
		kept at the current level	14.3
		increased by 50 cents per hour	5.1
		increased by \$1 per hour	15.6
		increased b more than \$1 per hour	16.9

This table shows that agreement on negative effect of minimum wage law is weakening. Almost 47 percent would like to eliminate minimum wage completely but 38 percent would like to increase it.

So far I have focused only on the survey which was based on American respondents. Now I would like to present two studies from Europe and find out if there are any analogies between American and European economists.

Ricketts and Shoesmith (1992) published a survey which was consisted of 35 questions and the respondents could use 5 answers from “agree strongly” to “disagree strongly”. The authors used the same set of questions which were used in previous studies. Altogether 981 economists (response rate 35.5 percent) took part in the survey.

### 14 British Economic Opinion: Positive Science or Normative Judgement?

Minimum wage related survey statement						
Survey	Statement in exact wording	Responses		Mean Weight	Relative Entropy [%]	Consensus rank in each survey
		Score	%			
Ricketts and Shoesmith, 1990	A minimum wage increases unemployment among young and unskilled workers	2	N/P	0.6	84	14-16
		1				
		0				
		-1				
		-2				

From the obtained data we can see that the economists generally admit negative effect of minimum wage. But the score in favor of this statement is quite low. For example, the highest consensus was with the statement that „regulating the price of agricultural products above competitive market levels results in surpluses“ with mean weight score 1.5. On the other hand, the highest level of discord obtained the statement „permitting trade in human organs for transplant purposes would be economically efficient“.

The final study about consensus among economists comes from the Czech Republic. It was written by Šťastný (2010) and its called *Czech Economists on Economic Policy*. This survey focuses on opinions of the members of the Czech Economic Association and all economics instructors at Czech colleges. The goal of the survey was to find out how much the economists tend to embrace free market solutions of these problems.

#### 15 Czech Economists on Economic Policy

Minimum wage related survey statement						
Survey	Statement in exact wording	Responses		Mean Weight	Relative Entropy [%]	Consensus rank in each survey
		Score	%			
Stastny, 2010	The level of the legislated minimum wage should be:	3	50	2.361	x	x
		2	34.6			
		1	14.3			

In the case of minimum wage we can see that the Czech economists tend to advocate liberalization, in other words they are for decreasing of minimum wage.

The first interesting result of this survey is that the women economists tend to be more intervencionist than men and secondly, Stastny has found a correlation between height of income and tendency towards free market solutions. Another interesting fact is that younger economists are more liberal than their older colleagues.

In the end of this chapter I would like to mention the petition which inspired me to write about this topic. This petition is about raising the minimum wage in the USA and it is called *Hundreds of Economists Say: Raise the Minimum Wage* (Economic Policy Institute, 2006). This petition was prepared by Economic Policy Institute, which inform us in the heading about the reasons to support the increase of minimum wage:

*“[T]he minimum wage helps to equalize the imbalance in bargaining power that low-wage workers face in the labor market. The minimum wage is also an important tool in fighting poverty.”<sup>21</sup>*

The authors of this petition express their conviction that moderate increase of minimum wage can improve the welfare of badly paid workers and it will not bring any negative effects. Petition was signed by several leading economists including a few Nobel prize winners and

<sup>21</sup> (Economic Policy Institute, 2006, p. 1)



ex-presidents of AEA.<sup>22</sup> These leading economists were supported by other 644 economists from the Ivy League universities to the less famous ones.

In the reaction to this petition Klein and Dompe (2007) published an article *Reasons for Supporting the Minimum Wage: Asking Signatories of the “Raise the Minimum Wage” Statement* where they tried to find the reasons which led the economists to sign this petition. Klein and Stompe sent a questionnaire to all the economists but only 95 from 659 cooperated. In the questionnaire they asked for description of mechanism in which the minimum wage could improve the well-being of workers and overall economy<sup>23</sup> and on the contrary which negative effects<sup>24</sup> from mentioned ones they confirmed to be real threat. Other questions<sup>25</sup> focused on possible negative economic consequences of increasing the minimum wage or the meaning of liberty and coercion.<sup>26</sup>



From all articles which I have examined, several points emerged, that are worth mentioning. If we have a look at the percentage of consensus on minimum wage we can see the declining trend. Nevertheless, it is necessary to point out at the beginning that the consensus remains quite strong and belonged among the strongest ones in all mentioned studies. Another interesting fact is that labor economist are more for minimum wage laws than the members of

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<sup>22</sup> Henry Aaron, Kenneth Arrow, William Baumol, Rebecca Blank, Alan Blinder, Peter Diamond, Ronald Ehrenberg, Clive Granger, Lawrence Katz, Lawrence Klein, Frank Levy, Lawrence Mishel, Alice Rivlin, Robert Solow, and Joseph Stiglitz

<sup>23</sup> The answers for this question were: compensation of imbalanced bargaining power (A), forcing of monopsonistic employer to increase employment (B), transfer of money from employers to workers, which could be accompanied by lowering of employment (C), improving of awareness on labor market (D). Most points were given to answers A (57) and C (71)

<sup>24</sup> The lower number of low paid workers will work in worse conditions (A), some workers will face a flatter time-profile of wage increases (B), some workers will work illegally (C), employers will enjoy less producer surplus (D) or decline of consumer surplus (E). Most points were given to answers A (42) and E (40). For methodology see page 149 of their article.

<sup>25</sup> Another interesting question concerned the authors whom the respondents can remember when speaking about minimum wage. Most quoted were the authors David Card and Alan Krueger, Alan Manning and Stephen Machin or David Neumark and William Wascher.

<sup>26</sup> The respondents were confronted with the definition of the liberty in this version: „Liberty is freedom from political or legal restrictions on one’s property or freedom of association“. Only 5 percent of respondents completely agreed with this definition. The 47 percent of respondents acknowledge this definition but this definition does not have a big importance for them. Another 23 percent of respondents try to find their own definition of freedom. Bergman gave an interesting answer: “I believe violating the minimum wage law is a civil offense, and so does not threaten physical aggression.“ Blinder has this opinion: “My view is that, yes, the minimum wage is somewhat coercive – as is all regulation. But I don’t see the right to pay super-low wages as one of the important freedoms“. Feiner has also a very interesting definition of freedom: “Hunger is far more coercive than the minimum wage...especially for children, they are not the ones making the choices. Have you ever had to sit and listen to children crying for want of food?“.

AEA. The last fact which emerged from this part of my thesis is that the American economists, in general, acknowledge the negative effects of minimum wage rather than their colleagues from Europe. Generally, we can find a far broader consensus over questions touching microeconomics, either dealing with minimum wage, price control or protectionism, than over question from macroeconomics.

## **2. Methodology of Research**

The goal of my thesis was to find out how the opinion of the academic economists on minimum wage was changing during the 20<sup>th</sup> century. I have found out three methods to track the development of economist's view on any field of their research.

The first method was to research the economic journals in the course of time and to compare how the opinions on chosen topics changed in time. A great advantage of this approach is that in fact I worked with the output of the economists, so I could in this way directly research the output of economic work which is determined for educated public and politicians who pursue public policy. Another great advantage of this application is that the data is easy to obtain and they can be traced as far as the beginning of the 20th century.

I came across the second possibility of research while reading an article *Two Cheers for Formalism* (Krugman, 1998). In this article Krugman deals with an enthusiasm of economists for abstract economic models and therefore also with the fact whether the irrelevance of economics is such an obstacle.

To support his ideas he is convinced that if he chose 100 most cited economists based on Social Science Citation index, and he made a short survey of their areas of interest, he would certainly find that there are economists who really deal with real problems. His idea could be worked out into the following methodology: applying Social Science Citation index to look up articles on chosen subject and then to make an analysis. However, I can see a problem in this approach because there could be a higher proportion of economists from the recent years and it would not bring any data from the beginning of the development of the minimum wage.

The third possible way how to research the relevance could be the focusing on works by Nobel Prize winners in Economy. This method could be very valuable even though the Nobel Prize is subject of many debates either dealing with the objectiveness or real importance for

economic theory. It would be very interesting to research the general opinion of awarded economists on minimum wage.



As the way of measuring I finally chose the first approach of measuring the consensus. I define the output of academic community as articles in economic journals which I subjected to detailed analysis. I obtained the articles via JSTOR<sup>27</sup> where can be found articles in the category Economics from 1891-2009. I started my research with the year 1910 because I found first articles about minimum wage in this decade. I looked up the articles with the help of the function “Item Title” in which I put the combination of words “minimum wage” and “living wage”.<sup>28</sup> Then I used the function of full-text searching and altogether I got 813 articles.

### ***2.1. Scoring of articles***

I decided to divide the articles for my research into three categories according to their relation to minimum wage. The articles with negative effect<sup>29</sup> of minimum wage were given number 3 in my scoring. Those which showed positive effects of minimum wage were given number 1.<sup>30</sup> If the authors have found out both positive and negative effect, so-called mixed effect, those articles were given number 2.

I have started the scoring of an article with reading its abstract and its conclusion because in most cases I have found the needed result here. Finally, I went through the methodology of the model to understand the way the author assembled his model and how he works with data. I could use this approach approximately from the 1950s because around this time the articles started to be written in the way we know them today. During this process I also eliminated articles which I found irrelevant.<sup>31</sup> In that way the number was reduced down to 263 articles.

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<sup>27</sup> The process itself of downloading articles was carried out from 08. 04. 2011 to 08. 10. 2011.

<sup>28</sup> I have concentrated in great detail on relationship between minimum wage and living wage in chapter 3.2.

<sup>29</sup> The authors of this study found out that the minimum wage has a negative effect on employment, distribution of welfare in the society or on the quality of educational programs for employees.

<sup>30</sup> This category includes also articles in which the authors did not find any relationship of minimum wage on observed variable.

<sup>31</sup> Thanks to the full-text searching I was able to find out many relevant articles to my research which I did not find with the help of function „Item Title“, but nevertheless because of full text research the number of irrelevant articles increased.

In the following part of my thesis I am going to give examples of articles which got the positive, negative and mixed valuation in my research.

#### 2.1.1. Example 1 – Article with Positive Effect of Minimum Wage

Example of an article which shows positive effect of minimum wage could be work by Card (1992) who deals with the raise of minimum wage in California in 1988 from \$3.35 to \$4.25.

*“I find no empirical support for the conventional prediction that economists make regarding the employment effect of minimum wages. Although the rise in the minimum wage in California raised the earnings of low-wage workers, it does not seem to have significantly reduced employment, even in the retail trade industry. For teenagers the changes following the rise in the minimum wage are particularly striking: hourly and weekly earnings rose by 10% while the employment-population ratio rose by 4%.”<sup>32</sup>*

Card shows that the raise of minimum wage leads to increase in wages but doesn't have an impact on employment and with a group of teenagers who are often the subject of studies about the minimum wage effects, his data show even positive effect on employment.

#### 2.1.2. Example 2 – Article with Mixed Effect of Minimum Wage

A good example of mixed effect of minimum wage is an article *The Impact of Minimum Wages on the Distributions of Earnings for Major Race-Sex Groups: A Dynamic Analysis* penned by Behrman et al. (1983). The authors try to find out if the minimum wage can help people to escape from below of poverty line. Authors come to the conclusion that there is no prevalent answer to their topic of research and their conclusion is that minimum wage has its winners and losers.

*“What are the effects of the minimum wage law provisions on earnings distributions for groups who are the supposed beneficiaries in the arguments of many advocates-blacks, females, the low schooled? The answer to this question is mixed. There are some positive effects. Increases in the minimum wage ratio have reduced the proportions of females and blacks below the poverty level, and have increased the real mean earnings for white females and black males. But there also are some important negative dimensions to the answer to this question. The expansion of coverage has not benefited black males. An increase in the minimum wage ratio has not increased the real mean*

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<sup>32</sup> (Card, 1992, p. 52)

*earnings for black females, but has done so for white males. Most important, generally the changes in the FLSA provisions have benefited the more schooled relative to the less schooled.*”<sup>33</sup>

### 2.1.3. Example 3 – Article with Negative Effect of Minimum Wage

As an example of negative scoring I have chosen article by Mixon (1978), who tries to extend the classical article by Stigler (1946) about aspect allocation efficiency of changing the profession. Mixon confirms that workers try to maximalize their expected income – they find a new job more frequently if the expected income from new job goes higher or the costs of job searching declines.

The impact of minimum wage on job searching is as follows:

*“Our most important finding is that the evidence strongly supports the expectation that the minimum wage inhibits quits. As indicated earlier, this finding may reflect a change in the net benefit to the employee from changing jobs, or it may indicate that employers become more selective in hiring. If the former is the major factor, then the minimum wage potentially decreases the labor market's dynamic efficiency. If we are observing the effect of increased selectivity by employers, then there will be a greater tendency to hire workers with a history of job stability. In the case of teenagers, who have no job history, the implications of this selection process are particularly severe. Employers may rely more heavily on school attendance as an indicator of expected stability.”*<sup>34</sup>

This part of article shows a negative effect of minimum wage. According to Mixon the minimum wage reduces allocation effectivity and he concludes that this reducing could have a negative impact on teenager’s employment.

## ***2.2. Rhetorical Evolution of Terms: From Anti–Sweating Agitation through Living Wage to Minimum Wage***

The concept of minimum wage itself went through some serious rhetorical changes in the last hundred years. The whole movement for minimum wage or for living wage was established from so-called anti – sweating agitation. The definition of sweating could be found in Hammond:

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<sup>33</sup> (Behrman, 1983, p. 776)

<sup>34</sup> (Mixon, 1978, p. 73)

*"Payment by an employer to his work people of a wage which is insufficient to purchase for them necessities of life."*<sup>35</sup>

Douglas has a similar definition:

*"The unfair exploitation by unscrupulous employers of the necessities of the poorer and more helpless class of workers by requiring them to work for wages inadequate to their needs or for excessive hours or under insanitary conditions."*<sup>36</sup>

The term anti-sweating afterwards evolved into the term living wage (or family wage), which should help families in need. An interesting opinion on this subject can be found in the book *A Living Wage: American Workers and the Making of Consumer* by Glickman (1997) who thinks that the employer has a full power on workers life and the workers lost possession of themselves. They are in the similar situation as women because women are dependent on their husbands .

The goal of living wage was to get out of this situation and the only way for them was to enter the trade union. We can find a similar description by Levin - Waldman:

*"Social reformers and labor leaders who advocated living wages during the late part of the 19th century viewed the living wage as one that would enable workers to achieve full citizenship."*<sup>37</sup>

Originally the statutory minimum wage was established for women and it should help them in difficult times and situations. Minimum wage was seen as a tool how women can live a proper life and they do not have to be afraid of being forced to be a prostitute.

We can find a description of relationship between wage and morality in Hutchinson:

*"It decides the girl's companionships, her amusements, her ability to gratify without danger her natural and reasonable tastes, her very capacity for resistance to temptation. Its physical effects open the way to moral dangers"*<sup>38</sup>

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<sup>35</sup> (Hammond, 1913, p. 26)

<sup>36</sup> (Douglas, 1919, p. 710)

<sup>37</sup> (Levin - Waldman, 1999, p. 6)

<sup>38</sup> (Hutchinson, 1919, p. 50)

It is interesting that women statutory minimum wage was always lower than the wage of the working man.

*“That men ought to be able to support wives and daughters implied that women need not engage in such support. They ought to be performing home duties. Thus if women earned wages, the normal expectation was that she did so to supplement those of other family wage earners.”<sup>39</sup>*

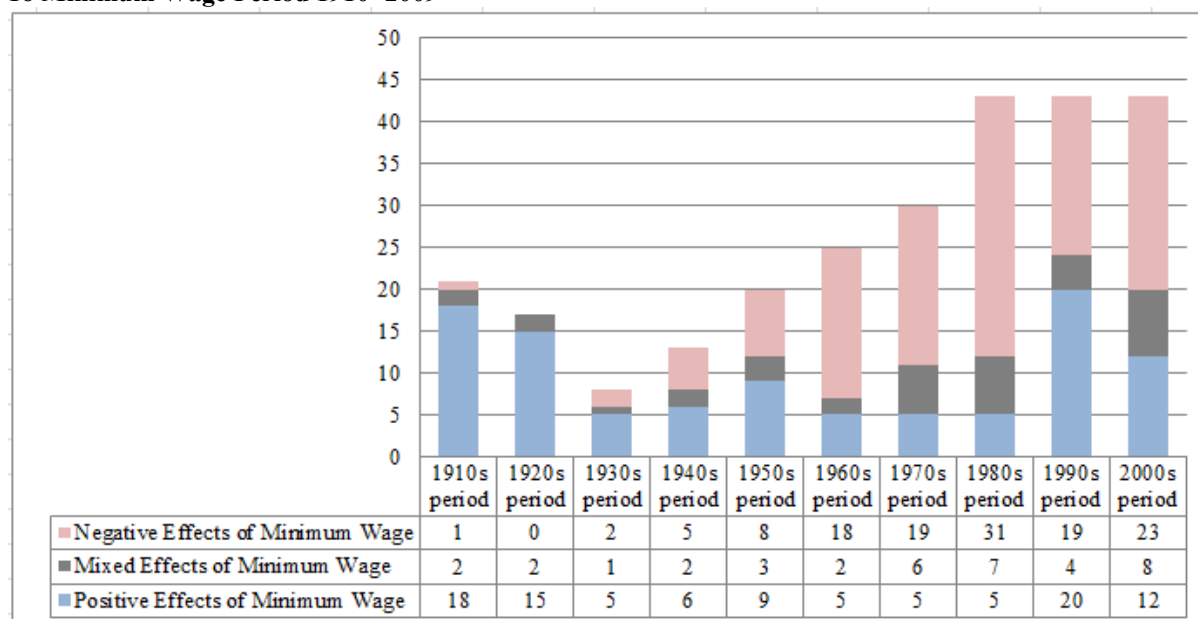
As we can see , there is no economic difference between the living wage and the minimum wage. It is in fact the same regulation – raise of wage which is forced by state. From these reasons I decided to look for articles dealing with anti-sweating movement, minimum wage or living wage.

### 3. Survey on Minimum Wage Consensus: 1910 - 2009

In this part of my thesis I am going to present the results of my research and then I am going to focus on individual decades in more detail. I will try to put these articles in context with the problems of that period and to find connections between them.

#### 3.1. Empiric results

16 Minimum Wage Period 1910- 2009



<sup>39</sup> (Kessler – Harris, 1988, p. 8)

As we can see from the chart above the number of articles raised through the time because more economic journals were established.<sup>40</sup> The chart shows a slowly decline in number of articles with positive effect of minimum wage contrary to the raising trend of articles with the negative effect of minimum wage. The only significant change of the trend can be seen in the 1990s. This phenomena will be discussed in the appropriate chapter.

### 3.1.1. The Period of 1910 – 1920: Looking Back to Origins of Minimum Wage

*“We can be sure...that raising the rate of wages will, of itself and in the absence of any new demand for labor, lessen the number of workers employed.”<sup>41</sup>* John Bates Clark, 1913

*“It was readily agreed that an industry which paid wages too low to support its employees in health and efficiency was parasitic.”<sup>42</sup>* Glendower Evans, 1915

My research began with articles that were published in academic journals in the years of 1910–1920. At this time the federal minimum wage was not established in the USA, nevertheless the world had its experience with the minimum wage and it was only a question of time when the USA adopts it.<sup>43</sup>

We can find in Neumark and Wascher (2008) that the very first introduction of minimum wage in the USA was in 1909 when the minimum wage for women was enforced thanks to cooperation of Association for Labor Legislation and National Consumer’s League.

The academic world in the USA was influenced by the Progressive movement. The followers of this movement were advocates of freedom but on the other hand they were convinced that a well prepared regulation can not harm the market.<sup>44</sup>

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<sup>40</sup> For example Journal of Economic Perspectives or Journal of Labor Economics which are largely represented in my survey, were established in the 1980s.

<sup>41</sup> (Clark, 1913, p. 290)

<sup>42</sup> (Evans, 1915, p. 271)

<sup>43</sup> We can find in Neumark and Wascher (2008) that New Zealand was historically the very first country that adopted the minimum wage law in 1894 followed by Australia in 1896 and England in 1909.

<sup>44</sup> White (2012) presents the brief history of American economic science from the beginning of the 20th century. He disproves a deep rooted opinion that before the Great Depression the academic economists were to a large extent followers of *laissez faire*. According to White the foundation of AEA in 1885 by institutionalists was of great importance of progressivism. The institutionalists obtained their knowledge about economy in Germany in the reign of Bismarck and when they returned back to USA they were convinced about the necessity to increase involvement of the state in the markets.



*“In the midst of all of these changes, Progressive era economists argued that a legislated minimum wage would increase the bargaining power and incomes of covered workers. They believed that this policy would create more efficient labor markets, and help to generate an independent middle-class culture within an increasingly urban and immigrant-populated society. Given these beliefs, American economists of the Progressive era were at the center of a widespread political movement when they argued that a legislated minimum wage could serve to promote social peace and preserve free institutions.”<sup>45</sup>*

Further spreading of minimum wage laws in the USA was not done by federal law<sup>46</sup>, but thanks to the legislative laws in particular states. Massachusetts was the first state which adopted the minimum wage law in 1912 and by 1923 this state was followed by other 14 states including Oregon, Utah, Washington and Minnesota. Most of the states adopted so-called Massachusetts’s model of minimum wage law or the model from Oregon. The main differences can be seen above all in establishing of the minimum wage or compliance of this law.

*“The major difference between the Massachusetts and Oregon statutes was in the enforcement area. Massachusetts used “public opinion” as the driving force behind employer compliance. Oregon instituted fines and imprisonment for employers who did not comply.”<sup>47</sup>*

As Douglas (1919) mentioned these laws adjusted only the wage for women and children because there was a threat of the Supreme Courts on increasing wages of adult men.

It is interesting that the programs for increasing wages before the Massachusetts law were not in awareness of the public. That concerns workers as well as employers.

*“The early minimum wage programs were not well understood by the public, employers were viewed as important community institutions that one dared not confront, communications within and outside the firm were imperfect at best, and workers, themselves, did not fully understand the rights and protection provided to them under the new law.”<sup>48</sup>*

After introducing the Massachusetts law many companies refused to accept it. We can find description of this problem in Broda:

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<sup>45</sup> (Prasch, 1999, p. 227)

<sup>46</sup> Neumark and Wascher (2008) mention that despite the recommendations of progressive movement in the politicians were afraid to adopt such regulation on federal level partly because they fear of violation of Fourteenth Amendment which focuses on freedom of contract provisions.

<sup>47</sup> (Nordlund, 1997, p. 16)

<sup>48</sup> (Nordlund, 1997, p. 12)

*"The names of the firms refusing to comply with the law were not published. Instead of a 'black list,' a 'white list,' containing only the names of the firms complying with the law was published...Since sanctions were small, there was widespread noncompliance with the recommended wage rates. When firms found it easy to comply, they did. When they found it easy to ignore the law, they did."*<sup>49</sup>

Among articles which I went through in my research belongs an article *The Social Aspects of the Public Regulation of Wage* by Evans (1915). This article focuses on the way of determining of the minimum wage which should ensure respectable lodging, three meals a day and a suitable clothing, some provisions for recreation, self-improvement, and health care.

This article also contains the calculation of weekly minimum wage \$8.71 and also a reaction on this amount by representatives of wage boards.

*"Very grave the employers looked during this phase of the discussion. And their surprise was obvious when the trifling items they had agreed to one by one were totaled. But no one seemed to apply the figures to his own pay roll. With \$8.71 accepted as the minimum sum upon which the independent woman could support herself, the chairman said: "I call the Board's attention to the fact that this figure is higher than the wages received by over 90 per cent of the women employed in this industry."*<sup>50</sup>

Evans does not forget to mention a relationship between the minimum wage and employment:

*"All that is definitely known is that one establishment closed a department which employed 16 persons, and is now supplying itself from outside the state with the article it formerly manufactured. But apart from this one instance, it is possible that the minimum wage regulation has but slight connection with unemployment in the brush making industry."*<sup>51</sup>

From the above mentioned quotation it can be clearly seen that Evans could see the connection between the increasing of unemployment and public policy. Nevertheless, she is convinced that minimum wage or other form of regulation is deeply necessary.

*"Great effort was made by the first Minimum Wage Commission to get behind the pay roll and to learn something of the life story...The girl's story was very pitiful. When she talked with our*

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<sup>49</sup> (Broda, 1920, p. 34)

<sup>50</sup> (Evans, 1915, p. 273)

<sup>51</sup> (Evans, 1915, p. 275)

*investigator she burst into bitter weeping. "How can I help it," she plead. "No girl can get by on \$6 a week. She can't get by. And when I first went wrong I was hungry; honest to God, I was hungry!" I do not tell this story that an inference may be drawn in regard to low wages which I do not draw. I tell it to illustrate the point I have made, that a girl who earns \$6 a week, unless she is helped out somehow, must go hungry.*"<sup>52</sup>

Some authors refused the minimum wage at the beginning. I found an article *Wage Theories in Industrial Arbitration* by Compton. His opinions on minimum wage are very clear:

*"As a method of industrial peace, arbitration is intermediate, not final; corrective, not remedial; opportunist, not ideal; an expedient for which the defense is to be found in present social policy. From the narrowly economic point of view as contrasted if such contrast be permissible with that of general social welfare, wage doctrine in industrial arbitration is as lacking in theoretical justification as is the legal minimum wage, the usual product of arbitration in practice."*<sup>53</sup>



In my own research I have read 20 articles from the era 1910-1920. Out of this number 17 articles got the number 1. These articles show us the positive effect of minimum wage. The majority of all articles was dealing with introducing the minimum wage in Australia or England and the work of the wage boards.

As we can see from the mentioned articles, the beginning of history of minimum wage was full of articles which were focused not on the theory of this regulation but on normative statements. In fact, there were not discussions in journals about the minimum wage. I have found just single articles.

We can say that there were no doubts about the necessity of establishing of minimum wage and in case someone was against it he was silenced with arguments about starving women which were under continual threat of becoming a prostitute.

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<sup>52</sup> (Evans, 1915, p. 276-277)

<sup>53</sup> (Compton, 1916, p. 342)

### 3.1.2. The Period of 1920 – 1930

*„It is argued that a mandatory minimum wage law in any state would drive out certain lines of business. I would answer that it is better for any business or any industry not able to pay the minimum wage to leave the state.“<sup>54</sup>*

*Edward Filene, 1923*

The first decade of history of the minimum wage is represented by introducing many laws in many states of the Union. In the 1930s the federal minimum wage was established. I think the 1920s is suprisingly an era without establishing new regulations. But in fact there were many reasons for doing that. On the contrary to general conviction of the public, the 1920s were not an era where working class did well. Bern points that out in his book *The Lean Years*:

*"[T]he jobless constituted 13 percent of the labor force in 1924 and 1925, 11 percent in 1926, 12 percent in 1927, 13 percent in 1928, and 10 percent in 1929."<sup>55</sup>*

Then he continues:

*"National income increased significantly throughout the decade, but wage earners enjoyed relatively few of the fruits of growth. In addition, "a paradox of the American economy in the twenties was that its glittering technical achievements gave birth to a dismal social failure" called technological unemployment."<sup>56</sup>*

Anybody could say that in these economic conditions the power of trade unions could be stronger and it would be easy to introduce new wage regulations.

Nordlund points out this:

*"There were several conditions that seemed to frustrate union growth. President Calvin Coolidge set the tone for change in the 1920s by proclaiming that "the business of America is business." There was widespread support for the expansion of business activities, and unions were not viewed as integral to that process. The workforce was also changing in ways that made union expansion difficult. Women were entering the workforce in large numbers and there was a shift from manual to white-collar jobs."<sup>57</sup>*

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<sup>54</sup> (Filene, 1923, p. 412)

<sup>55</sup> (Bern, 1960, p. 88)

<sup>56</sup> (Bern, 1960, p. 60)

<sup>57</sup> (Nordlund, 1997, p. 3)

The articles from my survey continued in the trend which was established in the previous decade. Articles were devoted to introducing of minimum wage in Australia, the calculation of minimum wage for women or improving current laws on minimum wage according to experience of other countries.

Example of compliance with the minimum wage and we can find this topic in Lucas (1924). Lucas warns about breaking the minimum wage laws in year 1919-1922.<sup>58</sup> At the beginning of minimum wage law it was common that the only penalty for this violation was to make the names of these companies public. This penalty seemed to be ineffective.

Despite this problem Lucas comes to this conclusion:

*“From this brief survey it is evident that, in spite of difficulties, the Massachusetts minimum wage law has done not a little to improve the condition of unskilled, unorganized female labor.”<sup>59</sup>*

Lucas also suggests what should be done for obeying the law:

*“The results of the Massachusetts experiment show that a law which compels acceptance of the rates is undoubtedly to be preferred to one which does not.”<sup>60</sup>*

Much more theoretical article is *The Minimum Wage and Efficiency* in which Filene (1923) tries to defend the higher minimum wage which he suggest to be a necessary condition of strong purchasing power of population. His first reason is employer's greed. Employers try to constantly lower the wages of workers. The second reason is the market mechanism itself, in other words competition.

Filene tries to find a connection between the higher wage which is installed by the minimum wage and effectivity of the firm:

*“A working girl worried about paying for her clothing and lodging isn't going to be either happy or ambitious. You cannot get effective organization out of people who are unintelligent, and people cannot be really intelligent who have not enough to live on properly. Where the hard pressure of mere living-obtaining food, clothing and shelterende, the possibility of intelligent action begins intelligent study, comprehension of the fundamentals of the business, appreciation*

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<sup>58</sup> In 1921 there were 959 cases of violating the minimum wage law. In 1922 there were 5675 new cases.

<sup>59</sup> (Lucas, 1924, p. 50)

<sup>60</sup> (Lucas, 1924, p. 50)

*and enjoyment of the work that is to be done, cooperative and effective organization of the group in carrying on the business. The better the wages, the better off are we in the management, other things being equal.*<sup>61</sup>

In his summary he concludes this:

*“A real minimum wage means a leveling up in the whole housekeeping of the city, of the state, and of the nation. It means that we have got to set our scales right, that we have got to make the conditions in our cities and states such that people can get a living if they are willing to work. It means that we must give them sufficient training so that they can earn a living. I am convinced that the minimum wage is one of the big means toward public efficiency...Finally, if we have to pay a living wage, it will help us to get away from the habit of thinking about lower wages as the only remedy for high cost of production. The big thing in business and industry that makes for high costs is waste waste growing out of inefficient management and inefficient labor. We have not yet begun to appreciate that, much less to control it; because the easiest thing in the world, until the minimum wage came, was to cut down wages, or, at least, to attempt it.”*<sup>62</sup>



In this era I have found 17 articles which mainly described positive effects of minimum wage. 15 articles out of 17 show only positive effects. Above all, this was the only decade where I did not find any article with negative effects of minimum wage.

As I have mentioned at the beginning of this chapter, this era did not bring any new legislative changes related to minimum wage. Nevertheless, articles appearing in the academic journals continued in direction which was set in the previous decade.<sup>63</sup> The character of these articles remains descriptive.

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<sup>61</sup> (Filene, 1923, p. 412)

<sup>62</sup> (Filene, 1923, p. 414)

<sup>63</sup> These articles celebrated the necessity to continue in success of establishing the minimum wage in the states of Union in the form of widening the law or its complying.

### 3.1.3. The Period of 1930 – 1940: The Age of F. D. Roosevelt

*„An encyclopedia is needed for an adequate description of the gigantic experiment that has been proceeding in America under President Roosevelt.“*<sup>64</sup> *The Economists, 1936*

In 1938 President Roosevelt signed The Fair Labor Act which was the zenith of his effort to introduce federal minimum wage which he was trying to establish since 1933.<sup>65</sup> American economy fought with strong depression and he tried to aid<sup>66</sup> economy with his programs.

Grossman (1978) suggests that Fair Labor Standard Act established<sup>67</sup> the minimum wage \$0.25 an hour and no differences among states were allowed. The minimum wage could differ according to the branch of industry.<sup>68</sup>

The differences between state minimum wage and federal minimum wage can be found in *The Quest for a Living Wage* by Nordlund:

*“The minimum wage provisions of the FLSA differed in several important ways from those of the earlier state laws. First, they applied to both sexes rather than just women. Second, employers who violated the FLSA were subject to fines, imprisonment, and damages for unpaid wages, a sharp contrast to the weaker state laws that had been implemented in an effort to avoid legal challenge. And third, the establishment of a uniform national minimum wage eliminated much of the variation in minimum wage rates across states that had resulted as a by-product of the earlier state legislation.”*<sup>69</sup>

One of the surveyed articles from this season was *Wages and Hours in Relation to Innovations and Capital Freedom* by Bowden et al. (1939). Authors inform us about

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<sup>64</sup> (Nordlund, 1997, p. 3)

<sup>65</sup> We can find a mention in Neumark and Wascher (2008) that Roosevelt tried to establish minimum wage earlier. The minimum wage law was a part of National Industry Recovery Act which was issued in 1933 but declared unconstitutional in 1935.

<sup>66</sup> Another explanation for establishing federal minimum wage has Folsom who claims that the real reason for enacting a federal minimum wage was to protect northeastern U.S. textile producers from their southern U.S. rivals. He states this:

*“During the 1920s and 30s, the American textile industry had begun to shift from New England to the South, where the cost of living was lower and where Southern workers produced a high quality product for lower wages. Politicians in Massachusetts, led by Senator Henry Cabot Lodge, Jr. and House leader Joseph Martin, battled in Congress for a law that would force Southern textile mills to raise wages and thereby lose their competitive edge. Governor Charles Hurley of Massachusetts bluntly demanded that Southern wages be hiked so that “Massachusetts [would] have equal competition with other sections of the country, thus affording labor and industry of Massachusetts some degree of assurance that our present industries will not move out of the state.” (Folsom, 1998, p. 1)*

<sup>67</sup> The detailed table of changing of Federal Minimum wage can be found in appendix.

<sup>68</sup> Grossman also states that only 20 percent of USA workforce were covered by FLSA.

<sup>69</sup> (Nordlund, 1997, p. 49, 1997)

substitution between capital and labor, they explain clearly why after establishing the minimum wage there are still wage differences between skilled and unskilled workers and the minimum wage is not a new maximum for salary.

The relationship between the minimum wage and employment is described as follows:

*“It seems then that we need not worry much that a minimum wage will make the minimum the maximum or will even narrow wage differentials permanently. But this may lead some to conclude that they should worry for fear minimum wages may be set too high, since the combination of forcing low wages up and the concomitant raising of differential wages may bring the total wage bill to so high a level that it will result in unemployment, retardation of capital formation, and collateral evils. But we probably do not actually face such an eventuality. We should fear rather that officials may set minimum rates so low that they will assist only the most underpaid or exploited workers. There is not much danger in this country, or perhaps in any other, of setting a minimum wage too high.”<sup>70</sup>*

*Wage Policies* penned by Graham et al. (1938) inform us about complicated connection between the wage rate and work period changes on one hand and the investment rates on the other hand. Right on the very first page we can read as follows:

*“In general, a substantial, arbitrary increase in wage rates or reduction in work periods...dims enterprisers' profit prospects as to stimulate them to introduce new labor-saving, cost-reducing machinery (with someone's investment funds), the net effect of which is to protect profits and to increase the relative employment of investment funds and capital equipment and not to increase the average employment and average relative income of labor.”<sup>71</sup>*

This article is one of the few ones in 1930s that doubt the positive effects of the minimum wage and also shows the final consequences of minimum wage.

*“[M]inimum wage and maximum hours laws tend to discourage investment of funds in new plants in the highly competitive, little mechanized industries in which existing wage rates are low and labor costs a relatively large proportion of total production costs, while they tend to encourage investment of funds in the semimonopolistic, highly mechanized industries in which all or most of the wage rates are already above the law's minimum and in which labor costs are a relatively small part of total costs. Enterprisers who stay in the first kind of industry are of course stimulated*

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<sup>70</sup> (Bowden, Lonigan and Murray, 1939, p. 242)

<sup>71</sup> (Graham et al., 1938, p. 155)



*to introduce labor-saving equipment with investment funds. But they may have difficulty in obtaining the funds, and some enterprisers in this type of industry may go out of business. In any case it is to be doubted that the operation of such laws would result in general net increases in employment and average relative labor income.* “<sup>72</sup>



The 1930s were a strong challenge for the economy for the whole world. For writing about the minimum wage this era meant the abandoning of the very roots of writing about minimum wage. In this season we can trace the slow weakening of the number of historical articles that were focused on the first experiments with minimum wage in Australia or New Zealand. The new aim of articles was introducing new legislation in the USA or movement of wage rates and generally wage policies. I examined that 2 out of 8 articles showed negative effects of the minimum wage and 5 celebrated the positive ones. Economists focused on theoretical articles to large extent.

#### 3.1.4. The Period of 1940 – 1950: The FLSA in the Process and the Era of Marginalism

The 1940s were a time for great challenge not only for the USA. The biggest one was certainly involvement World War II. Its economical consequences, e.g. sharp increase of inflation is seen by many economists as the main cause of the first raising of the federal minimum wage.

Nordlund concludes this:

*“The original designers of the program (FLSA) could not have seen the impacts of a world war on inflation. The mandated \$.40 per hour minimum wage required in 1945 was reasonable in the context of economic conditions in 1938. However, war-induced inflation had been devastating throughout the first six years of the program and was destined to become worse. Consequently, an important issue relating to the minimum wage was the reduced purchasing power of the mandated wage rate.* “<sup>73</sup>

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<sup>72</sup> (Graham et al., 1938, p. 156)

<sup>73</sup> (Nordlund, 1997, p. 59)

Proposition to raise minimum wage to \$0.75 an hour happened during the presidency of Truman in 1949 and became active since January 1950.

A very important article not only for this season but for the whole minimum wage economics is *The Economics of Minimum Wage Legislation* by Stigler (1946). In this article we can find the very first<sup>74</sup> complex view on minimum wage. First, Stigler deals with the consequences of minimum wage on allocation of resources and he divides results according to whether the worker is on the market with competitive wage determination or in monopsony market.<sup>75</sup> The raising of minimum wage on the market with competitive wage determination will cause lay off of workers whose work does not have the value of minimum wage. Their marginal product of labor is simply too low.<sup>76</sup> I can't forget to mention the importance of price elasticity after goods in that area of business:

*"The former result, discharge of less efficient workers, will be larger the more the value of their services falls short of the legal minimum, the more elastic the demand for the product, and the greater the possibility of substituting other productive services (including efficient labor) for the inefficient workers' services. The discharged workers will, at best, move to unregulated jobs where they will secure lower returns. Unless inefficient workers' productivity rises, therefore, the minimum wage reduces aggregate output, perhaps raises the earnings of those previously a trifle below the minimum, and reduces the earnings of those substantially below the minimum. These are undoubtedly the main allocational effects of a minimum wage in a competitive industry."*<sup>77</sup>

Stigler's view on aggregate employment is that the higher minimum wage the more workers in affected industry will be out of work. He also claims that combining of family income and necessity of minimum wage is very tricky.

*"[A]lthough wages are, of course, the chief component of the income of low-wage families, they are by no means the only component. It is indicated...that a tenth of the wage-earner families had cash investment income, a quarter had entrepreneurial income, and a quarter owned their homes. The connection between hourly wages and the standard of living of the family is thus remote and fuzzy. Unless the minimum wage varies with the amount of employment, number of earners, non-wage income, family size, and many other factors, it will be an inept device for combatting poverty*

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<sup>74</sup> We can find another whole described minimum wage problem in Mises (1949).

<sup>75</sup> The raising of minimum wage on this particular market can lead both to raising of wages and employment.

<sup>76</sup> Stigler also suggests the possibility that introducing of minimum wage could lead to increasing of labor productivity but he suggests at the same time that workers are already on the edge of poverty and we can not expect that they could work even harder. (Stigler, 1946, p. 359)

<sup>77</sup> (Stigler, 1946, p. 358-359)

*even for those who succeed in retaining employment. And if the minimum wages varies with all of these factors, it will be an insane device.*<sup>78</sup>

Lester (1947) responds on Stigler 's article in 1947. In his article *Marginalism, Minimum Wages, and Labor Markets* he criticizes Stigler's marginalistic approach to the market and his disregarding of history of minimum wage in the last 30 years.

*"During the past 30 or 40 years there has been a wealth of experience with minimum wage laws in the states, under the Fair Labor Standards act, and in foreign countries as well as with wage minimums under the National Industrial Recovery act and the National War Labor Board. Lack of any reference to that experience gives Professor Stigler's paper a pre-World War I flavor, as though it were contemporary with the adverse pronouncements of marginalists like J. B. Clark and F. W. Taussig on minimum-wage legislation some thirty years ago."*<sup>79</sup>

Lester also criticizes Stigler's statement that low-wage industries are competitive. This means that according to Stigler we can characterize this industry as a market on which the workers are given their wage which is equal to the value of their marginal product and that the employers can not change this wage. Lester also claims that Southern textile firms give their workers different wage.<sup>80</sup>

Later in the article he reveals that the main failure of the marginalistic view of labor market is that marginalists look on labor market as ordinary commodity market. Lester refuses this view and gives some examples why these markets are different:

*"Contrasts between labor and commodity markets are striking....A job is a complex of factors, most of which have no counterparts in commodity markets. Such factors include physical conditions in the plant, workloads, speed of operations, danger of the work, length of the workday and workweek, vacations and holidays...Unlike a reduction in commodity purchases, reduction in an employer's work force generally involves significant costs to the employer. It is costly, for example, because of the adverse effects upon the morale of the remaining workers, the tendency for workers to restrict output in the face of reductions in the work force, the need to shift workers to different jobs with changes in the scale of plant operations, and possible increases in the employer's tax rate under experience rating in unemployment compensation (not to mention plans*

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<sup>78</sup> (Stigler, 1946, p. 363)

<sup>79</sup> (Lester, 1947, p. 146)

<sup>80</sup> In his article *Shortcomings of Marginal Analysis for Wage - Employment Problems* he concludes from his empirical research that only 15 percent of interviewed employers from Southern manufacturing firms think that wage is factor that can influenced the employment. (Lester, 1946, p. 81)

*for dismissal compensation, guaranteed employment, or guaranteed wage income). The added costs of work-force reduction may be especially high under a union agreement. Such factors, though troublesome to a marginalist, must be taken into account in discussing employment adjustments to wage changes.*<sup>81</sup>

Another interesting discussion emerged in article *Some Effects of a Minimum Wage upon the Economy as a Whole* penned by Brown (1946). Brown deals with a model of closed economy which operates under the level of full employment and with imperfections both in the factor and commodity markets. Brown argues that introducing of uniform minimum wage should lead in that case to increasement of economy's elasticity to consume. The movement of employment depends on how big the increase in effective demand is, which reacts on change in propensity to consume, it will be higher or lesser than decline in effective demand caused by factors whose influence is opposite. Brown tends to think that the final result on employment would be rather positive but it depends on setting the right level of minimum wage.

*“[T]here undoubtedly exists at a given time a zone beyond which the wage could not be set without producing more adverse effects on employment than beneficial ones. The various unfavorable reactions on entrepreneurial expectations which might be produced by a large increase in wages serve to limit the heights at which the minimum wage might be set in a non-collectivist economy.*<sup>82</sup>

Sufrin (1940) in his article *The Effects of Minimum Wages* points out that the regulatory increase in wages should not necessarily lead to increasing of demand for goods because of redistribution of income. This effect depends on the phase of the cycle in which the economy passes the law.

*“[T]he second contention [the increased demand for these goods will reflect itself in an increase in the demand for capital to be employed in the consumption trades], it would seem, is severely limited by the assumption that the consumption goods industries were operating at, or close to, the point of full economic utilization of existing plant capacity before the wage award was made. Unless this were so, a slight redistribution of income arising out of a small increase in total pay-rolls would be unlikely to have a sufficiently strong general effect on consumption to stimulate greatly investment activity in the consumption goods industries. This negligible effect would be especially true if the wage award were made in a period of depression when the unused available*

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<sup>81</sup> (Lester, 1947, p. 147)

<sup>82</sup> (Brown, 1940, p. 107)

*capacity of industry is great. Even though the investment industries are harder hit during bad times, it is clear that the consumption trades are not unscathed.*”<sup>83</sup>

Another criticism came from Mikesell (1940) who in his article *A Note on the Effects of Minimum Wages on the Propensity to Consume* concludes that if producers can maximize their profit and can change the output and its price at the same time, the expected increase in wage rates could not happen.



The 1940s were not only for the USA but for the whole world a severe test when after 1930s which brought a difficult economic crisis, a war era came. From the view of history of minimum wage we can characterize this season as completion of the coming of theory into the academic debate. U.S. Department of Labor also started to issue periodical survey on labor market where a significant growth in number of articles can be traced.

I went through 14 articles from this period which were mainly concentrated on the relationship between the minimum wage and employment. Other topics were e.g. problems of wage control or trade unions influence on wage policies. I have found out that 7 out of 14 articles describe positive effect of minimum wage and 5 articles were against minimum wage.

From the above mentioned articles I have found out that marginalism had a big impact almost on all articles which I have read. There is also a raising number of articles which combined the minimum wage with some effect on economy.

### 3.1.5. The Period of 1950 – 1960: The Third Decade of FLSA

*“But I fear that when the economic theorist turns to the general problem of wage determination and labor economics, his voice becomes muted and his speech halting. If he is honest with himself, he must confess to a tremendous amount of uncertainty and self-doubt concerning even the most basic and elementary parts of the subject.”*<sup>84</sup>

*Paul Samuelson, 1951*

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<sup>83</sup> (Sufrin, 1940, p. 577)

<sup>84</sup> (Wright, 1951, p. 312)

The second decade of FLSA in effect began with a short period of peace but then it was interrupted with the Korean War. As every war even this led the economy under the big pressure. Even in this era we can observe the raising of minimum wage:

*“On August 12, 1955, the president signed Public Law 381. This action resulted in the culmination of an act entitled the Fair Labor Standards Amendments of 1955. These amendments provided for essentially one change: they raised the minimum wage from \$.75 per hour to \$1.00 per hour. There were no changes in coverage, exemption provisions, or overtime and child labor standards.”<sup>85</sup>*

Even during the second period of FLSA we can see the slowly broadening scope of professions which were integrated in FLSA.<sup>86</sup> FLSA slowly ceased to be a law for protection of workers in low-wage industries and it begins to be law for „all workers“.

In the 1950s the articles again focused mainly on the relationship between the minimum wage and employment or wage differentials in separate industries and if the minimum wage can help to reduce these differences. I also observed articles which evaluated success in establishing minimum wage both in America and Europe from the beginning of the 20<sup>th</sup> century to 1950s.

A very important article for this period is *Effects of Minimum Wages, 1938-50* by Peterson (1957). Peterson observed the influence of minimum wage on employment in three industries – southern sawmills, men’s cotton garment and seamless hosiery since the introducing of FLSA to 1950. In all three industries he found a negative effect of minimum wage on employment. This conclusions are against the former results of The Department of Labor.

Peterson concludes this:

*“The Department of Labor studies of selected low-wage industries have shown that employment increased or decreased only slightly immediately after previous increases in the federal minimum wage...Also, in view of the exaggerated predictions of ruin by some employers and the stated objective of the Fair Labor Standards Act of raising substandard wages "without substantially curtailing employment," it is not surprising that official summaries of these studies have stressed these gross employment changes that followed pre-vius minimums. Some economists, however, have regarded these results as showing that the minimums alone had no significant net effects on*

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<sup>85</sup> (Nordlund, 1997, p. 84)

<sup>86</sup> According to Wage and Hour Division (Wage and Hour Division, 1988), in the 1949 the workers of air transport industry were integrated under FLSA.

*employment. These economists also claim, implicitly or explicitly, that the results are contrary to the wage theory of a competitive model and thus require alternative models for their explanation.*<sup>87</sup>

He presents (1959) the same results in his further study *Employment Effects of State Minimum Wages for Women*, where he tries to measure the relationship between the minimum wage and employment in dry cleaning, retail stores and laundries.



In this decade we can observe another raise in federal minimum wage as well as widening of number of professions which were integrated into the program of minimum wage. I examined the increasing number of articles which showed the negative effect of minimum wage. For the first time, I found out that there are more articles that describe negative effect than articles which describe positive effects of minimum wage – 9 out of 20 articles were against minimum wage, 8 were for minimum wage and 3 described mixed effects.

### 3.1.6. The Period of 1960 – 1970: The Expanding of FLSA

*“Government can also pass minimum-wage laws, which, though passed off on voters as helping the poor, actually hurt them by forcing employers to hire only those people skilled enough to warrant the legally-enforced wage. The poor, unskilled teenager, does not deserve the current federal minimum wage.”*<sup>88</sup>

Milton Friedman, 1980

The beginning of the 1960s was very hectic for many reasons. The USA confirmed their technological advance in space research. Also this period is known for their great social programs which were established by President Kennedy and they were spread even more after his death by President Johnson. The federal minimum wage went through big changes at the very beginning of this period:

*“On May 5, 1961, President John Kennedy signed a bill into law that, among other things, raised the minimum wage from \$1.00 per hour to \$1.25 per hour, expanded coverage to categories of workers previously without protection, strengthened the back wage recovery process, and required*

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<sup>87</sup> (Peterson, 1957, p. 412)

<sup>88</sup> (Friedman, 1980, p. 34)

*a variety of studies to determine the consequences of maintaining several exemptions to the law.* “<sup>89</sup>

The reaction of President Kennedy was as follows:

*“I congratulate the Congress and all men of goodwill who worked so hard for this social gain. All fair employers know that a minimum wage does not harm the economy, but on the contrary helps eliminate unfair competition. In the months and years to come, I can see important gains for the whole economy resulting from this improvement to the living and working standards of our people.”*<sup>90</sup>

Another increase in federal minimum wage appeared in 1966. In the 1966 amendments of the FLSA we can see the increasing of minimum wage to \$1.40 an hour, and this amount was increase the following year to \$1.60. As well as the scope of professions under the FLSA was extended.

*“The amendments brought over 9 million additional workers into coverage. The amendments extended coverage beyond the private sector to include certain federal government workers wage board employees and those paid from nonappropriated funds and certain state and local government employees local hospitals and educational institutions. The 9.1 million newly covered workers were primarily located in public and private hospitals and nursing institutions 2.0 million; retail trade 1.7 million; and public and private educational institutions 1.3 million. The remaining 4 million were primarily in the construction industry, laundry workers, and federal government wage board and nonappropriated funds employees.”*<sup>91</sup>

As far as my research is concerned I have discovered for the first time a survey (Simon, 1967) which described wage differences between the Caucasians and the Afro-Americans and how minimum wage affected this distinction. The name of the article is *The Effect of Fixed-Wage Rises on Discriminated - Against Minorities*. Simon argues that employers tend to hire the whites so the Afro-Americans are forced to accept low-paid jobs so their supply of work is less elastic. In case of increasing the minimum wage the amount of the Afro-Americans with jobs will be lower because the employers prefer to hire the Caucasians.

Simon shows an empirical example:

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<sup>89</sup> (Nordlund, 1997, p. 95)

<sup>90</sup> (Kennedy, 1962, p. 1)

<sup>91</sup> (Nordlund, 1997, p. 115)



*“An example of a well-intentioned high wage hurting a minority group is the case of janitors at the University of Illinois. At the Chicago campus Negro janitors predominate. But in Urbana, where wages are considerably higher than at the Chicago campus, practically all janitors are white, though there are many qualified Negroes offering their labor who have passed the civil service test and whose labor is not demonstrably inferior to that of whites. A discretionary aspect of the hiring policy is important: within the three top test-score applicants for a job, the supervisor may choose any one he likes; this makes discrimination more operative.”<sup>92</sup>*

The teenage unemployment was a subject to Brozen (1969) in his article *The Effect of Statutory minimum Wage Increases on Teen-Age Employment*. Brozen based his article on Stigler's *The Economics of Minimum Wage Legislation* (1946) and he states that increasing in minimum wage leads only to speeding the increase of wage which will happen anyway. The increasing of unemployment will be just temporary and it will last only till the economy sets on the original way of development.

Nevertheless, such increases in minimum wage can be seen as slowing of real increasing of wages in comparison to other industries without minimum wage. Brozen tests this theory on data from U.S. Bureau of Labor Statistics between 1949–1961. In 1950 there was an increase in minimum wage to \$0.75 an hour. This increase was applied only to workers who had their salary lower more than 10 percent from the average salary of the industry. In case of hosiery industry, this increase basically cover all workers. This industry experienced a great growth in wages contrary to industries without this increasement. However in the following years the increasement was not so high.

*“In the following three years, average hourly earnings in seamless hosiery continued to rise, but at a much slower pace. They rose at a 4.1 per cent annual rate between 1950 and 1953 for a total rise of 12.8 per cent. In contrast, average hourly earnings in all manufacturing rose at a 6.5 per cent annual rate from 1950 to 1953 for a total rise of 20.8 per cent. Thus by 1953, average hourly earnings in seamless hosiery apparently were about the same as they would have been without any rise in the statutory minimum.”<sup>93</sup>*

Brozen observed the similar trend in following industries: Men's and Boy's Furnishings, Cigars and Women's and Children's Underwear. He also argues that the rise in minimum wage affects most low-skill workers and teenagers. He observed teenage employment before

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<sup>92</sup> (Simon, 1967, p. 97, 1967)

<sup>93</sup> (Brozen, 1969, p. 110)

and after increasing of minimum wage and he finds out that the minimum wage has a negative effect on teenage employment – the Afro-American teenagers are more affected than the Caucasians.

*“Although the reported unemployment rates show the greater impact of the minimum wage laws on non-white teenagers than on white teen-agers, these figures understate the difference. Many non-white teenagers have been discouraged from even looking for jobs by the decrease in employment opportunities. White teenagers may also have been discouraged, but not so much if we judge by relative movements of participation rates. They have dropped more sharply for non-whites than for whites. After the minimum wage increased in 1950, the participation rate for non-white male teen-agers fell while that for white male teenagers rose... The participation rate for both groups increased in 1956 over 1955, but more for whites than non-whites...Following the September, 1961, increase in minimum wage rates, participation rates for both whites and non-whites declined. The non-white male teen-age rate fell more sharply than the white rate. For the first time, it fell below the white rate and has remained below it since.”<sup>94</sup>*



The minimum wage was increased several times during the 1960s. On the other hand the academic world affirmed the established trend – there were more articles which showed negative effects of minimum wage. I examined altogether 25 articles, out of this number 18 articles were against minimum wage and on the contrary only 5 articles defend the minimum wage. The articles dealt above all with unemployment of teenagers or minorities.

### 3.1.7. The Period of 1970 – 1980: The Reign of Empiricism

*“Each time that we have tried to boost the lower level of salary for the most underpaid workers, there have been predictions of catastrophe, but each time, in my opinion, the change has helped our Nation and its economic strength.”<sup>95</sup>*

*Jimmy Carter, President of the USA, 1977*

*“Every time the minimum wage goes up, we have to lay off a few more people. A lot of people simply aren't worth the minimum wage.”<sup>96</sup>*

*Billy Carter, businessman, 1977*

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<sup>94</sup> (Brozen, 1969, p. 121)

<sup>95</sup> (Nordlund, 1997, p. 143)

<sup>96</sup> (Nordlund, 1997, p. 142)

Both the 1960s and 1970s were characterized by increasing of minimum wage and also the increasing of coverage of profession which were covered by FLSA. In the 1970s impact on empirical examination of the FLSA started. The new established Minimum Wage Study Commission focused on relationship between income distribution, inflation and above all unemployment.

Nordlund mentions how this commission proceeded:

*“As the 1970s began, the studies of the FLSA were far advanced. While the level of effort and attention was substantial, it is fair to conclude that few definitive, unambiguous "answers" were formulated. The decade started in a condition of uncertainty and ended in a similar condition. What was perceived to be a relatively simple set of analytical tasks ended as a complex set of relationships and interrelationships that analysts were ill-prepared to address. However, as the study results poured out of the process, there was an understandable tendency to engage in great leaps from study findings to proposed policy or program changes. It was during the 1970s that it became "known" that every economist of any standing would agree that higher minimum wage rates resulted, inevitably, in fewer job opportunities.”<sup>97</sup>*

The first results of the Minimum Wage Study Commission were published in 1980. The most important recommendations concern youth subminimum wage and indexing of minimum wage.<sup>98</sup>

The first raise in minimum wage in this period appeared in 1974 when the minimum wage was raised to \$2.00. After a few more raising the minimum wage was \$2.90 in 1979.

From my point of view a very interesting text was also *The Effect of Extending Minimum Wages to Cover Household Maids* penned by Martilla (1973). The author analyzes the federal proposition that household maids should have been covered by minimum wage law too. He concludes his analyzes with statement that if the government passed a minimum wage \$1.60 an hour that demand for household maids could decline up to 30 percent.

The connection between the minimum wage and the allocation effectivity was a topic in the article *The Minimum Wage and Voluntary Labor Mobility* by Nixon, Jr (1978). Author tries to confirm his theory that if workers maximize their wages then minimum wage has to

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<sup>97</sup> (Nordlund, 1997, p. 144)

<sup>98</sup> The Minimum Wage Study Commission suggested not to support the separation of minimum wage to youth subminimum wage and regular minimum wage. Commission also suggested introducing of indexing scheme which would help with the increasing of minimum wage.

influence quits rate.<sup>99</sup> He constructed two hypotheses. The first hypothesis is that minimum wage lowers gain from looking for a new job and also thanks to an increase in unemployment it takes more time to find a new job. The second hypothesis is that minimum wage will lead to greater selectivity with the employers while hiring new workers.<sup>100</sup> He succeeded in confirming both hypotheses based on the data about U.S. Department of Labor for the period 1959 – 1975 for 15 low-wage manufacturing industries. Mixon, Jr. finds out that in the observed industry the employees leave their jobs more often if the revenue from job search goes high and costs from job search goes down.

About the relationship between minimum wage and quit rate he writes:

*“Our most important finding is that the evidence strongly supports the expectation that the minimum wage inhibits quits. As indicated earlier, this finding may reflect a change in the net benefit to the employee from changing jobs, or it may indicate that employers become more selective in hiring. If the former is the major factor, then the minimum wage potentially decreases the labor market's dynamic efficiency. If we are observing the effect of increased selectivity by employers, then there will be a greater tendency to hire workers with a history of job stability. In the case of teenagers, who have no job history, the implications of this selection process are particularly severe. Employers may rely more heavily on school attendance as an indicator of expected stability.”<sup>101</sup>*

*Minimum Wages and The Long-Run Elasticity of Demand for Low-Wage Labor* by Zucker (1973) is an example of article in which he found a positive effect of minimum wage. The article deals with the problem how the minimum wage affects low-wage manufacturing sector. He based his survey on a simple multiplicative model of business cycle and condition that wage elasticities for production worker employment equals 1. He also assumes that employment is subject to change, either or cyclical, trend, because of minimum wage or irregular influences.

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<sup>99</sup> “The quit rate is the measure of voluntary labor mobility. Quits are identified on the basis of the Bureau of Labor Statistics' definition: “terminations of employment initiated by the employees, failure to report after being hired, and unauthorized absence, if on the last day of the month the person has been absent more than 7 consecutive calendar days.” (Mixon, Jr., 1978, p. 68)

<sup>100</sup> Employers prefer stability. These are employees who remain in one job for a longer time. Those who change jobs frequently had to accept a lower wage but nevertheless, thanks to the minimum wage in the particular industry these employees will not be given the job and will have to leave this industry.

<sup>101</sup> (Mixon, Jr., 1978, p. 73)

The relationship between the minimum wage and employment is described by Zucker as follows:

*“An increase in the minimum raises the wage rates of below minimum workers, thereby increasing average hourly earnings in the affected industries. Assuming competitive markets, employers theoretically economize on labor by moving along marginal product of labor curves in the short run, and engaging in capital-labor substitution in the long run... [E]mployment will exhibit a distributed lagged response to the minimum wage as employers adjust toward the equilibrium level appropriate to the increased labor costs. But due to the secular increase in wage rates, the wage impact of the minimum will tend to diminish gradually, and the equilibrium employment level will rise, *cet. par.*, until a new minimum becomes effective.”<sup>102</sup>*



We can see the continuing trend that on one side the federal minimum wage was constantly increasing in this period but on the other hand the academic economists published more and more articles against the minimum wage. I examined 30 articles in this period – 19 of them were against the minimum wage and 5 were supported the minimum wage. The most discussed topic was unemployment with low-skill workers.

### 3.1.8. The Period of 1980 – 1990: Nightfall of Minimum Wage?

*“The minimum wage has caused more misery and unemployment than anything since the Great Depression.”<sup>103</sup>*

*Ronald Reagan, 1980*

The 1970s where the years where the minimum wage was rising in a record speed. In the 1980s we could see only two raises of the minimum wage. The first one during the presidency of Carter and the second one a year later while the President Reagan was in office. The minimum wage remained \$3.35 per hour until 1990.

I think that a very interesting article in this decade was *Minimum Wage Law and Youth Crimes: Time – Series Evidence* by Hashimoto (1987). Hashimoto tried to find a connection between the minimum wage and criminal activities of teenagers. He formulates a hypothesis in which teenagers have four possibilities to spend their free time – studies, entertainment,

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<sup>102</sup> (Zucker, 1973, p. 269)

<sup>103</sup> On the campaign trail in 1980. (Time, 1980, p. 1)

lawful work and unlawful work. When the minimum wage goes up it means for teenagers that they invest less time in lawful work and have more time for other possibilities. If they invest more time into unlawful activities, these crimes will touch stealing of property, because teenagers would like to balance their budget.

An example of an article that showed a positive effect of minimum wage on economy could be *Optimal Minimum Wage Legislation* by Drazen (1986). Drazen describes a model in which the establishment of minimum wage is Pareto effective. The amount of salary is positively connected with quality of work and therefore the minimum wage would be preferred by employers and employees too. He also suggests that if the quality of work is very sensitive on changing of wage then effective unit labor cost will fall with the increase in minimum wage. This will lead to situation that companies will tend to offer higher wage than the market wage and also ration job slots. If there is no connection between wage offer of the individual company and quality of work, but connection between market wage and quality of work instead, companies will want to undercut the optimal above-market clearing wage and keep the benefits of more skilled workers.

*“Minimum wage legislation which supported the preferred equilibrium would be welfare-improving relative to the competitive equilibrium. There are several examples of labour markets where information about worker quality is imperfect and where average labour quality may rise with increases in the average wage. Urban labour markets in less developed countries where entrants are migrants from rural areas provide one example. Skilled labour markets which require a significant amount of costly training before one may be employed provide another.”<sup>104</sup>*



My research shows that the 1980s confirm the established trend from the 1930s. In this decade we can also see the slight reduction in tendency for increasing of minimum wage. From 43 articles, 31 were against the minimum wage and 5 were for minimum wage. The articles dealt with teenage unemployment, the optimal rate of minimum wage or the effects of minimum wage on minority unemployment.

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<sup>104</sup> (Drazen, 1986, p. 782)

### 3.1.9. The Period of 1990-2000: The Rise of New Economics of Minimum Wage

*“The main thing about (minimum wage) research is that the evidence of job loss is weak. And the fact that the evidence is weak suggests that the impact on jobs is small.”<sup>105</sup>*

*Robert M. Solow, Nobel Laureate in Economics*

The 1990s were fruitful on FLSA amendments which were raising minimum wage and also adjusted relationship between an employer and an employee. The first raise appeared in April 1990 where the minimum wage was raised to \$3.80. Only one year later it was again raised and this time to \$4.25. Another increasing came in 1996 and 1997.<sup>106</sup>

In March 1996, 7 months before raising the minimum wage in this year, Office of the Chief Economist from U.S. Department of Labor under the Presidency of Reich issued an article which should inform the public about the necessity of increasing the minimum wage.

*“Americans know a raise in the minimum wage is one way to help make work pay. For many working Americans an increase in the minimum wage will make the difference between living in poverty and not. Furthermore, a higher minimum wage - a floor to ensure workers that they're getting a fair deal for their efforts - provides a foothold into the middle class for many other families.”<sup>107</sup>*

Reich also submits reasons for increasing in minimum wage. These reasons are inflation which reduces the value of present minimum wage. Other reasons are helping the families which live under the line of the poverty or crucial importance of minimum wage to employment of women. He also states that people should not be afraid of losing their jobs after the raising the minimum wage. In this part he refers to several studies, nevertheless he does not quote any of them.

The 1990s are very unique in my research. In contrast to previous decades, we can describe the 1990s as a decade of a huge increase in the number of surveys which either find a positive effect of minimum wage or a non connection between minimum wage and unemployment whatsoever. This decade is especially connected with the works by Card and Krueger.

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<sup>105</sup> (Reich, 1996, p. 4)

<sup>106</sup> According to Wage and Hour Division of U.S. Department of Labor (Wage and Hour Division, 2009) in September 1997 the minimum wage was set to \$5.15. And the amendment from this year also introduced youth sub minimum wage \$4.25 for workers under 20 years for 90 days after hiring.

<sup>107</sup> (Reich, 1996, p. 2)

### 3.1.9.1. Studies by Card and Krueger in the 1990s

In the 1990s, Card and Krueger published several articles which brought a discord into the relative strong consensus about the minimum wage among academic economists. Their surveys became very famous because, in my opinion, it was very useful for political goals.

**17 Summary of Estimated Employment Effects from Card and Krueger's articles from 1990s**

Survey	Source of Wage Change	Proportional effects on Wages <sup>108</sup>	Proportional effects on Employment
New Jersey - Pennsylvania Fast Food Restaurants	New Jersey minimum wage rise to \$5.05 April 1992	0.11 <sup>109</sup>	0.04
Texas Fast - Food Restaurants	Federal minimum wage rises to \$4.25 April 1991	0.08	0.2
California Teenagers	California minimum wage rises to \$4.25 July 1988	0.1	0.12
Cross - States, Teenagers, 1989 - 1992	Federal minimum wage rises from \$3.45 to \$4.25	0.08	0
Cross - States, Workers with Low Predicted Wages, 1989 - 1992	Federal minimum wage rises from \$3.45 to \$4.25	0.07	0.02
Cross - States, Employees in Retail Trade, 1989 - 1992	Federal minimum wage rises from \$3.45 to \$4.25	0.05	0.01
Cross - States, Employees in Restaurant Industry, 1989 - 1992	Federal minimum wage rises from \$3.45 to \$4.25	0,07	0,03

Source: Card, D., Krueger, A.: Myth and Measurement: The New Economics of the Minimum Wage, Princeton, 1995, p. 388

In this table we can see a summary of articles which were written by Card and Krueger about the changes in minimum wage both on the level of separate states and on the federal level in the course of the 1990s. In my research sample from the 1990s I have found a study from New Jersey which describes relationship between minimum wage and employment in fast-food industry and another study which focuses on fluctuations of teenage employment in California. The other studies are not a part of my access to JSTOR so I am going to deal with them only briefly.

<sup>108</sup> Estimated wage and employment effects are proportional changes relative to pre-minimum-wage period.

<sup>109</sup> Indicates that the estimate is based on an underlying model in which the effect of the minimum wage impact variable is statistically significant at the 5 percent level.



The first article *Do Minimum Wages Reduce Employment? A Case Study of California, 1987 – 89* signed by Card (1992) did not get so much attention as the next ones. The author measures the effect of increasing minimum wage from \$3.35 to \$4.25 on teenage employment in 1988 in California. The minimum wage raised the wages of workers by 5 to 10 percent. Nevertheless, there is no decline in teenage employment but in fact an increase.

In 1994, Card and Krueger (1994) published *Minimum Wages and Employment: A Case Study of the Fast-Food Industry in New Jersey* which is the famous one. The authors analyzed the employment in 410 fast-food restaurants before and after increasing of minimum wage.

Their conclusions is as follows:

*“Contrary to the central prediction of the textbook model of the minimum wage, but consistent with a number of recent studies based on cross-sectional time-series comparisons of affected and unaffected markets or employers, we find no evidence that the rise in New Jersey’s minimum wage reduced employment at fast-food restaurants in the state.”<sup>110</sup>*

Their study evoked many reactions about their methodology because their conclusion is in direct contradiction with the majority of analyses that were written on this topic.

Card and Krueger obtained their data from phone questionnaires which proceeded in two parts – before and after raising the minimum wage in New Jersey. This approach is the most criticized part of their survey. The Employment Policy Institute gave a detail look on their data and it found many irregularities at the very first sight.

*“Card and Krueger report that a Burger King outlet in New Jersey had six full-time workers in February, but by November, it had added 23 more full-time workers – an implausible shift in the operations of this restaurant...A Wendy’s in Pennsylvania had 30 full-time people on staff in February, but by November all full-timers had apparently quit or been terminated without replacements – zero were reported in the Card-Krueger data.”<sup>111</sup>*

At the beginning of 1995 analysts from the Employment Policy Institute got payroll records from many restaurants which appeared in the Card and Krueger’s survey. When they compared the obtained data with the previous ones they found out that the Card and Krueger’s numbers are anything but realistic.

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<sup>110</sup> (Card and Krueger, 1994, p. 792)

<sup>111</sup> (EPI, 1996, p. 3)

*“The initial EPI analysis covered 25% of the franchised units in the Card-Krueger data set, finding very few instances in which the Card – Krueger numbers even closely resemble the actual payroll records. In fact, with one-third of the observations, the Card-Krueger data set fails to identify the correct direction of employment change – whether it was job loss or a job gain.”<sup>112</sup>*

Neumark and Wascher re-estimated the study with payroll data, which are commonly used for measuring the effect on minimum wage. Their results are completely opposite to the results of Card and Krueger’s study. According to Neumark and Wascher, after increasing the minimum wage in New Jersey in 1992 the employment declined.

*“Whereas Card and Krueger’s data imply that the New Jersey minimum wage increase led to an increase in full-time equivalent employment in fast-food restaurants in New Jersey relative to the Pennsylvania control group, our preferred difference in differences estimate using payroll data implies that the minimum wage increase led to a statistically significant 4.6 percent decline in fast food employment in New Jersey relative to the Pennsylvania control group.”<sup>113</sup>*

The final conclusion of their survey is this:

*“Card and Krueger’s results using the telephone survey data always indicate positive effects of minimum wages on labor demand...Our results using the payroll data always indicate negative effects of minimum wages on labor demand.”<sup>114</sup>*

Card and Krueger (and their “followers”) also started to use an approach called “nature experiment”. They used cross-section analysis of data which observed the subject from micro view and avoided the confrontation with aggregate variables. While most studies before were using time-series data analyses which were focused on aggregate employment rates.

Card and Krueger describe their approach as follows:

*“Cross-section studies use variation in the minimum wage at a point in time to identify the effect of the minimum wage; panel data studies follow the experiences of states or individuals over time.*

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<sup>112</sup> (EPI, 1996, p. 4)

<sup>113</sup> (Neumark and Wascher, 1996, p. 22-23)

<sup>114</sup> (Neumark and Wascher, 1996, p. 23)

*Unlike time-series studies, the cross-sectional and panel-data studies do not have to rely on movements in the national minimum wage for their estimation results.*<sup>115</sup>

In a nutshell the nature experiment compares the height of wage and employment before and after increasing the minimum wage in a course of time with the areas with no increase in minimum wage. Card and Krueger introduce the beginning of using this approach in their book *Myth and Measurement*:

*“The idea of using natural experiments is hardly new in economics. Indeed, the earliest research on the minimum wage by Richard Lester (1946) and others, used that approach. Nevertheless, it is controversial – perhaps because studies based on the natural experiment approach often seem to overturn the “conventional wisdom.”*<sup>116</sup>

Nevertheless, the natural experiments were used far earlier in 1940s and their results were not different from those ones made with other methodology. The history of this approach of measurement can be found in *The Elusive Effects of Minimum Wages* by J. Kennan.

*“A more representative list of natural experiment studies would include work by Marie L. Obenauer and Bertha von der Nienburg (1915), John Maloney (1942) and John Peterson<sup>117</sup> (1957, 1959), and these studies did not overturn the conventional wisdom (perhaps that is why Card and Krueger did not mention them).”*<sup>118</sup>

Nevertheless, nature experiments are generally thought to be not that reliable as time-series approach. Brown in article *The Effect of the Minimum Wage on Employment and Unemployment* claim this:

*“On the basis of the cross-section studies alone, one is able to say little with confidence.”*<sup>119</sup>

Stigler (1947) was even more critical in *Professor Lester and the Marginalists* when he stated that examining of effects of increasing minimum wage on group of companies which did not bankrupt is the same as examining the effects of war on a group of veterans who survived the war.

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<sup>115</sup> (Card and Krueger, 1995, p. 208)

<sup>116</sup> (Card and Krueger, 1995, p.21)

<sup>117</sup> The article by Peterson was included in my research and shows negative effects of minimum wage.

<sup>118</sup> (Kennan, 1995, p. 51)

<sup>119</sup> (Brown et al., 1982, p. 512)

The surveys by Card and Krueger became a tool for politicians because they could use them for their efforts of increasing the minimum wage. These affords can be seen in Zycher's article *Minimal evidence: Flawed Studies drive the Call for an increased Minimum Wage*:

*"Labor leaders, who like high minimum wages because they make union pay scales more competitive, have seized on the new research to disparage the traditional view. So have Labor Secretary Robert Reich<sup>120</sup> and President Clinton. "Now, I've studied the arguments and the evidence for and against a minimum wage increase," Clinton claimed in his State of the Union Address. "I believe the weight of the evidence is that a modest increase does not cost jobs, and may even lure people back into the job market."<sup>121</sup>*

In 1996 the Employment Policy Institute issued the review of Card and Krueger's survey on fast-food restaurants in New Jersey. This review helped to change the course of debate about minimum wage in that time.

*"Numerous media reports produced scathing criticism of the study, its authors, and the politicians who were using the flawed report to push for a new hike in the minimum wage. Labor Secretary Reich, who had cited the study almost daily in his effort to raise the minimum wage, abruptly stopped referring to the flawed work. Secretary Reich went so far as to change his message completely: where he once claimed a minimum wage hike would "actually increase jobs" he changed to saying a "modest" wage hike could cause "negligible job loss"...When President Clinton renewed his calls for a higher minimum wage in February and March 1996, however, his allies returned to the New Jersey fast food study, seeking economic "support" for their position. But the evidence has not turned in their favor – the study is still ludicrously flawed."<sup>122</sup>*

Even Card and Krueger themselves stepped slightly back and call for cautiousness.

*"Krueger now suggests caution. He explains that "David and I have said all along that there was a tipping point where a great enough increase in the minimum wage would start to reduce employment." He didn't think the economy was at that point in 1996. However, today he says, "I suspect now that another increase, coming quickly after the last one, would bring us closer to the tipping point and may even cross it." This defection has chastened Senator Kennedy—at least a*

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<sup>120</sup> There is an odd connection between Reich and Krueger. Bandow (1999) mentions that Reich was a member of Economic Policy Institute before becoming Secretary of Labor in Clinton Cabinet. Later, he appointed Krueger as his chief economist. Studies of Economic Policy Institute were also partly financed by the Department of Labor.

Economic Policy Institute also issued a famous petition on raising minimum wage which I have mentioned in the third part of my thesis.

<sup>121</sup> (Zycher, 1995, p. 3)

<sup>122</sup> (EPI, 1996, p. 2)

*little bit. "I am not ready to grant the job loss argument. But it is an argument that needs serious evaluation."*<sup>123</sup>

Krueger came to the same conclusion on a conference in the Milken Institute where he stated:

*"I want to emphasize that my comments should not be interpreted as support for the position the increasing the minimum wage is sound public policy."*<sup>124</sup>

As for the studies which were not part of my research the first one focused (Card and Krueger, 1995) on relationship between the minimum wage and employment in fast-food restaurants in Texas before and after increasing in federal minimum wage in 1991. Card and Krueger used the same approach as in their study from New Jersey.

Their conclusion is identical to their observation from New Jersey:

*"[T]he results of the two studies are remarkably similar In the New Jersey – Pennsylvania evaluation, comparisons between restaurants in the two states show that employment actually expanded in New Jersey relative to Pennsylvania, where the minimum wage was constant. A comparison within New Jersey between high – wage restaurants that initially were paying more than \$5.00 per hour and low wage restaurants that had to raise their wages to comply with the new law yields the same conclusion. Relative to high-wage restaurants, employment increased at restaurants affected by the minimum wage. The same pattern emerges in the Texas study: relative to higher-wage restaurants that were unaffected by the law, restaurants that were forced to increase pay to meet the new federal minimum wage increased employment."*<sup>125</sup>

The Texas's study emphasizes wage differences among fast-food restaurants so we can assume that increase in minimum wage will mostly affect these areas. The increasing employment from Card and Krueger's study is even more surprising.

*"At the time, low-wage regions of the United States were growing faster overall than high-wage areas. The same might have been true within Texas, but the Card-Krueger analysis does not control for different growth rates. And if low-wage areas were growing faster, employment might still have jumped despite the increase in the minimum wage. In short, the Card-Krueger paper provides little basis to reject the traditional view of the employment effect of the minimum wage."*<sup>126</sup>

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<sup>123</sup> (Bandow, 1999, p. 2)

<sup>124</sup> (Adie and Gallaway, 1995, p. 139–140)

<sup>125</sup> (Card and Krueger, 1995, p. 67)

<sup>126</sup> (Zycher, 1995, p. 3)

The rest of Card and Krueger's studies from the beginning of the 1990s dealt with increase in federal minimum wage between 1989-1992 in 50 states. Even here the authors found a positive relationship. The methodology of this studies was as follows:

*"[T]he effect of the minimum wage is deduced by comparing changes in labor market outcomes between high-wage states, where the increase in the federal minimum wage had little or no effect on wages, and low-wage states, where the increase pushed further into the existing wage distribution."*<sup>127</sup>

### 3.1.9.2. *My Research in the 1990s*

Even without Card and Krueger's articles there was a big increase in studies showing positive effects of minimum wage. It is necessary to have a closer look<sup>128</sup> on these surveys, too. I found out that 15 out of 43 articles used in some way cross sectional data analyzes.

Machin and Manning (1994) examined impact of minimum wage on wage dispersion and employment. The authors have found out the evidence that decline in the toughness of the regulation in the 1980s led to increase in wage dispersion. Nevertheless, they did not find any evidence that abolishing Wage Council led to increase in employment.<sup>129</sup>

*"Our empirical findings are similar to those of some recent U.S. studies that are unable to detect any evidence that minimum wages have negative employment effects. If anything, our results are even more striking than those of the U.S. studies, because in some of our specifications we find that some of the Wages Council minimum rates were associated with higher employment."*<sup>130</sup>

In their second article from 1996, *Employment and the Introduction of a Minimum Wage in Britain* Machin and Manning (1996) wrote about the possible introducing<sup>131</sup> minimum wage in Great Britain if the Labor Democrats win the next elections. They show us new approaches

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<sup>127</sup> (Card and Krueger, 1995, p. 389)

<sup>128</sup> The Table 21 in Appendix provides closer look on these surveys.

<sup>129</sup> Abolishing of Wage Council left the Great Britain without minimum wage for a while.

<sup>130</sup> (Machin and Manning, 1994, p. 328)

<sup>131</sup> As we can find in Machin and Manning (Machin and Manning, 1996) minimum wage is nothing new in Great Britain. For the first time, it was introduced in 1909 for protection of workers in so-called „sweated“ trades. Wage Councils were institutions which were in charge of establishing minimum wage and on their compliance. At the beginning of the 1990s there were 27 Wage Councils which affected wages for 2.5 million workers. These councils were abolished by Government's Trade Union Reform and Employment Rights Bill in 1993. This abolishment of minimum wage left Great Britain as the only country in the European Union for the short time without the system of minimum wage.

in measuring the effects of minimum wage in comparison with the orthodox models of labor markets.

Their recommendation for Great Britain is as follows:

*„Our reading of the recent economic evidence is quite clear: the employment effects of minimum wages are rather minimal. As such it seems worth considering what a minimum wage would do were it to be introduced. It seems that a minimum wage set at an appropriate level has some potential to improve the lot of a reasonably large number of British workers, most of whom are women.“<sup>132</sup>*

Even in 1990s there were a lot of articles which showed negative effects of minimum wage. For example *The Impact of Minimum Wages in Mexico and Colombia* penned by Bell (1997). Author examines the impact of minimum wages on Colombia and Mexico. In case of Mexico she did not find any effect of minimum wage on employment and she explains this as follows:

*“In the case of Mexico, minimum wages have had virtually no effect on wages or employment in the formal sector. The key explanation for this lies in the position of the minimum wage relative to the wages of formal sector workers-the minimum wage is not an effective wage in either set of data for a majority of firms or workers. Concerning employment, the time-series data and the more reliable panel data estimates both yield elasticities of low insignificant and near zero over this period. Where the minimum wage may have had a more notable effect is in the Mexican informal sector, where data suggest that significant numbers of workers are paid at or below minimum wages.“<sup>133</sup>*

The 1990s were a bit of surprise for my research. From the view of public policy, this decade as well as the others, brought several increases in minimum wages. From the academic economists point of view there was a suprising raise in number of articles which supported the minimum wage. I examined 43 articles in this decade – 21 out of this number showed positive effects of minimum wage and 21 showed the negative effects. Besides unemployment the articles dealt with wage mobility, substitution between work and school among teenagers or the connection between minimum wage and poverty.

The raise in number of articles which supported minimum wage could be explained by the fact that Card and Krueger’s methodology which was adopted by other economists.

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<sup>132</sup> (Machin and Manning, 1996, p. 675)

<sup>133</sup> (Bell, 1997, p. 131-133)

### 3.1.10. The Period of 2000 – 2009: Everything back on Track?

The first decade of the 21st century was also rich in arising of minimum wage. The final raise in 2009 left minimum wage on \$7.25. President Obama promised<sup>134</sup> raising minimum wage every year as a presidential candidate but minimum wage remained on the level of 2009.

The interesting article from this decade is called *The Intriguing Relation between Adult Minimum Wage and Child Labour* by Basu (2000). Author takes an interest in the market for adult workers, his connection to the child labor and how this relationship is affected with minimum wage. Basu argues if the raise in wage is accompanied by raising of marginal productivity of labor, then all is good. However, if the raise in wages comes from regulation this will typically leads to increase of child labor (because it is cheap than adult labor), which would have negative effect on adult market for labor. Basu argues that in his model this could lead to complete replacement of adult labor by child labor.

An example of article which supports minimum wage is *Training and the New Minimum Wage* by Arulampalam (2004). Authors tried to estimate the impact of the minimum wage on the work-related training program for low-wage workers. They used two groups of workers. The first one was affected by increasing of minimum wage in 1999 and the second has not. The authors with the help of difference-in-differences techniques for the period 1998 to 2000 did not find any evidence that reestablishment of minimum wage in Great Britain led to lowering of training programs for workers.



Despite the fact that the Republican party was in charge for almost the whole decade the minimum wage was raised three times. I worked with 43 articles in my research. Out of this number 12 were describing positive effects of minimum wage while 23 described negative ones. The articles were concerning with wage distribution, labor market in developing countries and their relationship with minimum wage or the quality of training programs for low-skilled workers. As we can see from the results this decade did not repeat the “anomaly” from the 1990s.

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<sup>134</sup> Nader, R.: Where is Obama’s promised minimum-wage hike?  
url: <http://blogs.reuters.com/great-debate/2012/07/24/where-is-obamas-promised-minimum-wage-hike/>

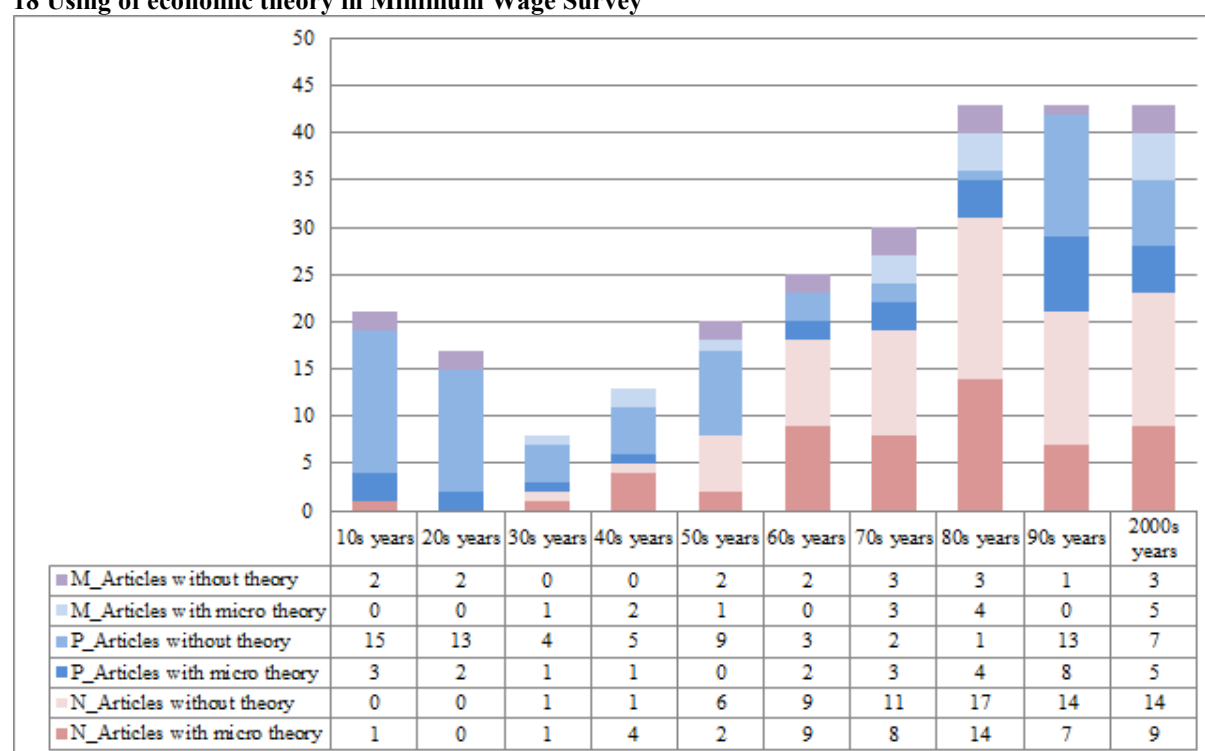


## 4. Summary

The objective of my thesis was to map out the genesis of economists' opinions regarding the use of minimum wage in economic policy in the course of time and to identify factors determining such development.

I have also focused on the economic theory in the articles. I was interested in how much the economists used economic theory for explaining their attitudes to the minimum wage.

**18 Using of economic theory in Minimum Wage Survey**



This chart shows the distribution of investigated articles according to the economists' views on minimum wage<sup>135</sup> and their usage of the economic theory either for forming hypothesis or explaining the results of their research. As we can see from the chart the application of the theory was gradually increasing and in the latest decades remains in the same proportions. In the first decades of the 20th century the articles without any theory prevailed. They either defended the wages in normative way (Evans, 1915) or they concentrated on describing the evolution of minimum wage (Hammond, 1917). In the first decade the prevailing theory was

<sup>135</sup> M – mixed effect of minimum wage, P – positive effect of minimum wage, N – negative effect of minimum wage

limited to economic theory of wages.<sup>136</sup> It is very interesting that even economists whose articles described positive effect of minimum wage understood the problem of this mechanism. However, they excluded the minimum wage out of it.<sup>137</sup> From my point of view a great change in using the theory in articles appeared in the 1940s thanks to the article by Stigler (1946) who in his article *The Economics of Minimum Wage Legislation* as the first fully described the differences between competitive wage market and monopsony market. This article is highly cited up to the present. The great critic of marginalism was Lester whose discussion<sup>138</sup> with Stigler is described in the chapter devoted to 1940s. In the second half of the 20th century we can see the increasing number of articles using economic theory. The concept of articles without theory changed a lot. These articles were based on econometric model and its results were presented as a fact without help of economic theory. The articles which show negative effects of minimum wage with the help of economic theory used largely a model of competitive labor market.<sup>139</sup> On the other hand, articles which showed the positive effects of minimum wage were mostly based on the theory of monopson.<sup>140</sup> Alternative models of labor market were also very popular. For example Neary (1981) tried to develop Harris-Todaro model<sup>141</sup>, which in considering capital to be intersectorally mobile can lead to paradox conclusion that higher minimum wage may increase the output of manufacturing.

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<sup>136</sup> Compton (1916) describes differences between value wage theory and living wage theory. Value wage theory says that the wage which workers have been receiving depends upon the value product attributed to the workers by the entrepreneur. Living wage is based on the decision of the wage board so there is no connection between the worker and employer. We can see a hidden basis of marginalism here.

<sup>137</sup> A good example is the text by Carver who at the very beginning says:

*I know of only one approximately satisfactory price for any commodity and that is a price which will tempt producers to produce as large a product as buyers are willing to buy at the price, or which will tempt buyers to buy as much as producers are willing to produce at the price. If the price is sufficient to call forth an adequate product, producers must find it relatively satisfactory. If buyers are willing to buy the whole product, they must find the price relatively satisfactory.*  
(Carver, 1922, p. 77)

Nevertheless, he continues:

*The exception occurs when there is a gross oversupply of unskilled labor....A minimum wage must then be adopted and enforced.* (Carver, 1922, p. 78)

<sup>138</sup> Lester focused above all on criticism of marginal measuring which he did not approve. His full incomprehension of marginalism can be found in his article *Shortcomings of Marginal Analysis for Wage-Employment Problems* where he states:

*"The conventional explanation of the output and employment policies of individual firms runs in terms of maximizing profits by equating marginal revenue and marginal cost. Student protests that their entrepreneurial parents claim not to operate on the marginal principle have apparently failed to shake the confidence of the textbook writers in the validity of the marginal analysis."*  
(Lester, 1946, p. 63)

<sup>139</sup> You can see Maher (1961), McCall (1970) or Grossman (1983).

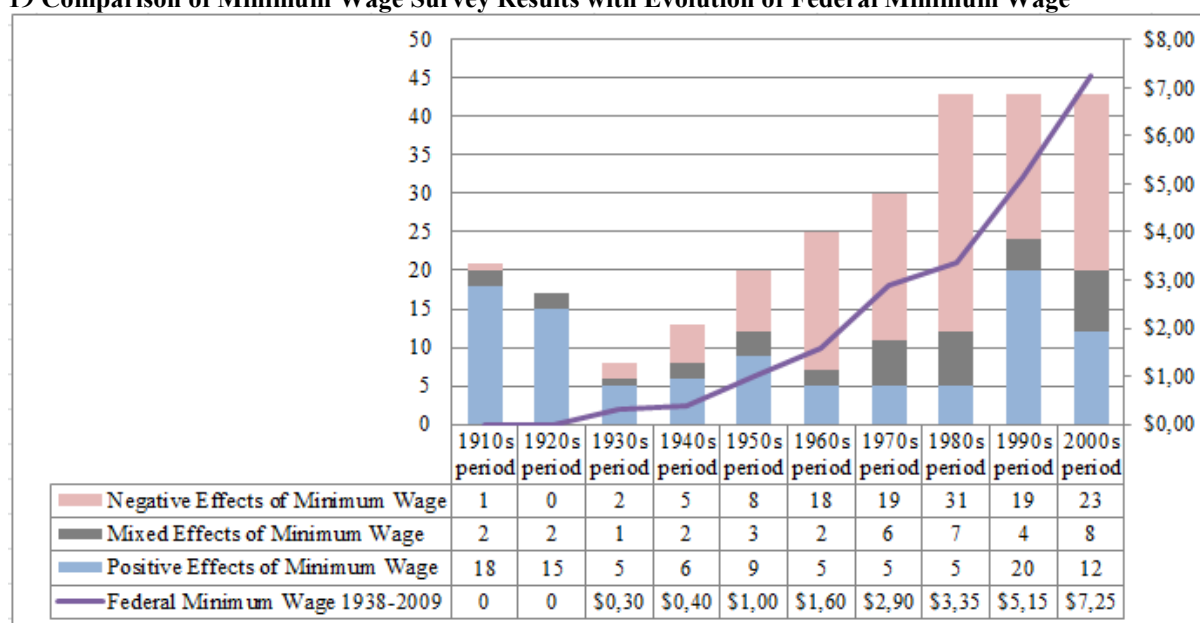
<sup>140</sup> You can see Manning (1995) or Dickens, Machin and Manning (1999).

<sup>141</sup> This model was introduced by Harris and Todaro (1970) and is used especially in development economics and welfare economics. Model describes migration between rural and urban areas. The conclusion of this model is that migration from rural area to urban area is economically rational despite high urban unemployment because of expected urban income. This migration would have negative effect on employment in both sectors.

Another example could be the article by Ippolito (2003) who develops a model which shows that a fully competitive labor market will not tolerate a large impact of minimum wage. Under plausible conditions, the minimum wage has a negligible effect on employment.<sup>142</sup> Generally, we can say that in the latest decades the alternative models of labor market prevailed.

From consensus survey which I went through, it seems clear that this consensus has been weakening since 1970s. Nevertheless, it remains quite strong with most economic opinions which have ground in microeconomics.

**19 Comparison of Minimum Wage Survey Results with Evolution of Federal Minimum Wage**



My study shows that the consensus of the minimum wage went through an interesting development during the 20<sup>th</sup> century. In the table 19 we can compare the evolution of consensus with the carried out public policy which is established with the development of the

<sup>142</sup> Ippolito relies on a competition in the labor market to allocate jobs:

*If some workers attach more value to a job than others, they work harder to retain it. Workers who attach less value to a job are unwilling to work as hard and, thus, appear to be “loafers.” Firms naturally tend to retain hard workers and encourage the separation of loafers. By resampling the applicant pool and sorting out relatively poor performers, the firm gradually discovers the optimum allocation of workers to these jobs... (Ippolito, 2003, p. 208)*

About minimum wage he states this:

*The competitive response triggered by the minimum wage diminishes its economic impact. The effort attenuates the impact of the wage increase on employer’s profitability (or output prices). The adjustments also diminish the impact of the minimum wage on employment, because harder-working lowskilled workers now add more value to marginal product than they did in a free-market solution. (Ippolito, 2003, p. 222)*

federal minimum wage. In a few first decades the consensus was in favor of the carried out public policy, in other words for raising the federal minimum wage or increasing the number of affected professions.

Approximately since the 1930s we can observe that the economists in a greater number are convinced in their articles about the negative effect of minimum wage on economy. The strongest consensus is visible in the 1980s. We can see a slight weakening of consensus in the 1990s which begins again to increase since 2000. We can also observe the same decline in the 1990s in the consensus studies which I went through in the Chapter 1, so my research shows the same movement. Klein (2007) published an article *Reasons for Supporting the Minimum Wage: Asking Signatories of the "Raise the Minimum Wage" Statement* and he writes that the most read articles with the economists who supported the petition raise the minimum wage are the articles by Card and Krueger. These are two economists I devoted a great part of my thesis in the research of 1990s.

Even in my research the results in this period were considerably affected by these two leading economists. If we consider the consensus among economists with the carried out public policy we will find out that with the exception of the very beginning of the research, the carried out public policy did not reach an agreement with the output from economic journals. We can observe the spreading difference between these two variables. Nevertheless, we can see it not only in the USA but all over the world. We can say that in these days 9 in 10 countries has some form of minimum wage. This regulation is so deeply rooted that even in my research, where I have found out many articles showing negative effects, I have not found a single one which recommends abandonment of minimum wage. I have not even heard any politician to speak about it either.<sup>143</sup> I think it is because there is no demand for its abandonment from public as it was in the case of price controls. The difference between these two regulations is that people still remember very well the negative consequences of the price control regulation.<sup>144</sup> From my point of view there is a big difference because nobody remembers the situation before introducing the minimum wage in the USA. Another reason can be the relationship between the economists and politicians.<sup>145</sup>

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<sup>143</sup> The similar situation is also with other steps where we can find a big consensus among economists. For example the question about trade liberalization, we canceled the duties but they were silently replaced by hidden regulations affected the imported products.

<sup>144</sup> Friedman claims (Roberts, 2006) in his discussion with Roberts that the reason why the price controls are not in favor is that there are too many people who experienced the devastating effects in the 1970s in USA. However, when there are no people remembering these effects then this regulation will become appealing again.

<sup>145</sup> Šťastný (2010) in his book *The Economics of Economics* introduces a market for economic ideas where on the side of supply there are economists with their recommendations and on the side of demand there are politicians. Both sides have two different classes of objectives: benevolent one (which means helping the world)

If I should estimate the future state in the consensus I am convinced that the consensus on negative effect will be stronger but we will not be able to see any changes in the public policy

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and selfish one (anything else – money, fame, etc.). Because of the incompatibility of these two sides, economists offer less-policy relevant or more interventionist theories. On the other hand politicians ignore or twist economic theory and also engage in deforming economists research.

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## 6. Appendix

### 18 History of Federal Minimum Wage Rates Under the Fair Labor Standards Act, 1938 - 2009

<b>Effective Date</b>	<b>1938 Act<sup>146</sup></b>	<b>1961 Amendments<sup>147</sup></b>	<b>1966 and Subsequent Amendments<sup>148</sup></b>	
			<i>Nonfarm</i>	<i>Farm</i>
Oct 24, 1938	\$0.25			
Oct 24, 1939	\$0.30			
Oct 24, 1945	\$0.40			
Jan 25, 1950	\$0.75			
Mar 1, 1956	\$1.00			
Sep 3, 1961	\$1.15	\$1.00		
Sep 3, 1963	\$1.25			
Sep 3, 1964		\$1.15		
Sep 3, 1965		\$1.25		
Feb 1, 1967	\$1.40	\$1.40	\$1.00	\$1.00
Feb 1, 1968	\$1.60	\$1.60	\$1.15	\$1.15
Feb 1, 1969			\$1.30	\$1.30
Feb 1, 1970			\$1.45	
Feb 1, 1971			\$1.60	
May 1, 1974	\$2.00	\$2.00	\$1.90	\$1.60
Jan. 1, 1975	\$2.10	\$2.10	\$2.00	\$1.80
Jan 1, 1976	\$2.30	\$2.30	\$2.20	\$2.00
Jan 1, 1977			\$2.30	\$2.20
Jan 1, 1978	\$2.65 for all covered, nonexempt workers			
Jan 1, 1979	\$2.90 for all covered, nonexempt workers			
Jan 1, 1980	\$3.10 for all covered, nonexempt workers			
Jan 1, 1981	\$3.35 for all covered, nonexempt workers			
Apr 1, 1990	\$3.80 for all covered, nonexempt workers			
Apr 1, 1991	\$4.25 for all covered, nonexempt workers			
Oct 1, 1996	\$4.75 for all covered, nonexempt workers			
Sep 1, 1997	\$5.15 for all covered, nonexempt workers			
Jul 24, 2007	\$5.85 for all covered, nonexempt workers			
Jul 24, 2008	\$6.55 for all covered, nonexempt workers			
Jul 24, 2009	\$7.25 for all covered, nonexempt workers			

<sup>146</sup> The 1938 Act was applicable generally to employees engaged in interstate commerce or in the production of goods for interstate commerce.

<sup>147</sup> The 1961 Amendments extended coverage primarily to employees in large retail and service enterprises as well as to local transit, construction, and gasoline service station employees.

<sup>148</sup> Subsequent amendments extended coverage to the remaining Federal, State and local government employees who were not protected in 1966, to certain workers in retail and service trades previously exempted.

# 19 The Use of Card and Krueger's Methodology in the Articles from 1990s

Authors	Name of the article	Ranking	Card and Krueger's methodology
Fraja, G.	Minimum Wage Legislation, Productivity and Employment	1	no
Machim, S. and Manning, A.	Employment and the Introduction of a Minimum Wage in Britain	1	no
Wellington, A. J.	Effects of the Minimum Wage on the Employment Status of Youths: An Update	1	yes
Machim, S. and Manning, A.	The Effects of Minimum Wages on Wage Dispersion and Employment: Evidence from the U.K. Wages Council	1	no
Metcalf, D.	The Low Pay Commission and the National Minimum Wage	1	no
Bell, D.N. and Wright, R.E.	The Impact of Minimum Wages on the Wages of the Low Paid: Evidence from the Wage Boards and Councils	1	yes
Montgomery, J. D.	Equilibrium Wage Dispersion and Interindustry Wage Differentials	1	no
Dickens, R., Machin, S. and Manning, A.	The Effects of Minimum Wages on Employment: Theory and Evidence from Britain	1	yes
Swinerton, K. A.	Minimum Wages in an Equilibrium Search Model with Diminishing Returns to Labor in Production	1	no
Addison, J. and Blackburn, M.	Minimum Wages and Poverty	1	yes
Manning, A.	How Do We Know that Real Wages Are too High?	1	no
Bhaskar, V. and To, T.	Minimum Wages for Ronald McDonald Monopsonies: A Theory of Monopsonistic Competition	1	no
Bound, J. and Freeman, R. B.	What Went Wrong? The Erosion of Relative Earnings and Employment Among Young Black Men in the 1980s	1	no
Fitoussi, J. P.	Wage distribution n Unemployment: The French Experience	1	no
Katz, L. F. and Krueger, A. B.	The Effect of the Minimum Wage on the Fast-Food Industry	1	yes
Holzer, H. J., Katz, L. F. and Krueger, A. B.	Job Queues and Wages	1	no
Card, D. and Krueger, A. B.	Time-Series Minimum-Wage Studies: A Meta-analysis	1	yes
Card, D.	Using Regional Variation in Wages to Measure the Effects of the Federal Minimum Wage	1	yes

Card, D.	Do Minimum Wages Reduce Employment? A Case Study of California_1992	1	yes
Card, D., Katz, L. F. and Krueger, A. B.	Comment on David neumark and William Wascher "Employment Effects of Minimum and Subminimum Wages: Panel Data on State Minimum Wage Laws"	1	yes
Card, D. and Krueger, A. B.	Minimum Wages and Employment: A Case Study of the Fast-Food Industry in New Jersey and Pennsylvania	1	yes
Addison, J. T. and Blackburn, M. L.	Minimum Wages and Poverty	2	no
Baker, M., Benjamin, D. and Stanger, S.	The Highs of the Minimum Wage Effect: A Time - Series Cross - Section Study of the Canadian Law	3	yes
Bell, L. A.	The Impact of Minimum Wages in Mexico and Columbia	2	yes
Boal, W. M. and Ransom, M. R.	Monopsony in the Labor Market	2	yes
Currie, J. and Fallick, B. C.	The Minimum Wage and the Employment of Youth Evidence from the NLSY	3	no
Deere, D., Murphy, K. M. and Welch, F.	Employment and the 1990-1991 Wage Hike	3	no
Freeman, R. B.	The Minimum Wage as a Redistributive Tool	3	no
Gowers, R. and Hatton, T. J.	The Origins and Early Impact of the Minimum Wage in Agriculture	3	yes
Hanson, G. H. and Harrison, A.	Trade Liberalization and Wage Inequality in Mexico	3	no
Kaestner, R.	The Effect of Government-Mandated Benefits on Youth Employment	3	no
Kapteyn, A., Kieffer, N. and Rust, J.	Introduction: The Microeconometrics of Dynamic Decision Making	3	
Koning, P., Ridder, G. And Van Den Berg, G. J.	Structural and Frictional Unemployment in an Equilibrium Search Model with Heterogenous Agents	3	no
Masters, A. M.	Wage Posting in Two-Sided Search and the Minimum Wage	3	no
McGregor, P.	A Model of Crisis in a Peasant Economy	3	yes
Neumark, D. and Wascher, W.	Employment Effects of Minimum and Subminimum Wages: Panel Data on State Minimum Wage Laws	3	no
Neumark, D. and Wascher, W.	Minimum - Wage Effects on School and Work Transitions of Teenagers	3	no
Neumark, D. and Wascher, W.	Employment Effects of Minimum and Subminimum Wages: Reply to Card, Katz and Krueger	3	no
Perri, T. J.	Optimal Minimum Wage Legislation: Comment	3	no

Seltzer, A.	Causes and Consequences of American Minimum Wage Legislation	3	no
Seltzer, A.	The Effects of the Fair Labor Standards Act of 1938 on the Southern Seamless Hosiery and Lumber Industries	3	no
Shuk-Lin Kan, J. and Sharir, S.	Minimum Wage and Probability of Getting a Job Effects in a Simultaneous Equations Model of Employment and Participation: Canada 1975 - 1991	3	no
Smith, R. E. and Vavrichek, B.	The Wage Mobility of Minimum Wage Workers	2	no
Van den Berg, G. J. and Ridder, G.	An Empirical Equilibrium Search Model of the Labor Market	3	no



## 20 List of surveyed articles, 1910 - 2009

Name of the Author	Name of the Article	Date	Theory	Scoring	Micro/Macro argument
Abbott, E.	Progress of the Minimum Wage in England	1915	no	1	no
Carver, T. N.	Economic Significance of Changes in Country Population	1912	no	2	no
Compton, W.	Wage Theories in Industrial Arbitration	1916	yes	3	micro
Davenport, H. J.	Wage Theory and Theories	1919	yes	1	micro
Douglas, D. W.	American Minimum Wage Laws at Work	1919	no	1	no
Evans, G.	The Social Aspects of the Public Regulation of Wages	1915	no	2	no
Foerster, R. F.	The British National Insurance Act	1912	no	1	no
Hammond, M. B.	Wages Boards in Australia: IV. Social and Economic Results of Wages Boards	1915	no	1	no
Hammond, M. B.	The Regulation of Wages in New Zealand	1917	no	1	no
Hammond, M. B.	Wages Boards in Australia: I. Victoria	1914	no	1	no
Hammond, M. B.	The British Minimum Wages Act of 1909	1910	no	1	no
Holcombe, A. N.	The Legal Minimum Wage in the United States	1912	no	1	no
Keeling, F.	The Trade Boards Act	1914	no	1	no
Kelley, F.	Minimum-Wage Laws	1912	no	1	no
LaRue Brown, H.	Massachusetts and the Minimum Wage	1913	no	1	no
Le Rossignol, J. E.	Some Phases of the Minimum Wage Question	1917	yes	1	micro
Smith, C.	The Working of the Trade Boards Act in Great Britain and Ireland	1914	no	1	no
Thompson, C. B.	Relation of Scientific Management of Labor	1916	no	1	no
Warne, F. J.	Public Regulation of Wages - Discussion	1915	no	1	no
Webb, S.	The Economic Theory of a Legal Minimum Wage	1912	yes	1	micro
Wise, E. F.	Wage Boards in England	1912	no	1	no
Berman, E.	The Supreme Court and the Minimum Wage	1923	no	1	no
Bowley, A. L.	Conditions of Employment of Dock Labour	1920	no	2	no
Breckinridge, S. P.	The Home Responsibilities of Women Workers and the Equal Wage	1923	no	2	no
Carver, T. N.	The Equilibrium Wage	1922	yes	1	micro
Derry, K. and Douglas, P. H.	The Minimum Wage in Canada	1922	no	1	no

Douglas, P. H.	Some Objections to the Family Wage System Considered	1924	no	1	no
Filene, E. A.	The Minimum Wage and Efficiency	1923	yes	1	micro
Heaton, H.	The Basic Wage Principle in Australian Wages Regulation	1921	no	1	no
Hewes, A.	Russian Wage Systems under Communism	1922	no	1	no
Hogg, M. H.	Dependants on Woman Wage - Earners	1921	no	1	no
Hohman, H. F.	The Use of Cost-of-living Figures in Wage Adjustments	1926	no	1	no
Joy, A.	Washington's Minimum - Wage Law and Its Operation	1926	no	1	no
Kittredge, D. D.	A Suggestion for Determining a Living Wage	1923	no	1	no
Lucas, A. F.	A Recommendatory Minimum Wage Law: The First Decade of the Massachusetts Experiment	1924	no	1	no
Macmillan, J. W.	Minimum Wage Administration	1928	no	1	no
Mitchell, T. W.	Relative Rating versus Cost of Living as a Basis of Adjusting Wage - Rates	1922	yes	1	micro
Witte, E. E.	The Effects of Special Labor Legislation for Woman	1927	no	1	no
Bowden, W., Lonigan, E., Murray, M. G.	Wages and Hours in Relation to Innovations and Capital Formation	1939	yes	2	micro
Burns, A. E., Kerr, P.	Survey of Work - Relief Wage Policies	1937	no	3	no
Dunlop, J. T.	The Movement of Real and Money Wage Rates	1938	yes	1	micro
Forsey, E.	Legislative Protection of Forest Workers	1935	no	1	no
Graham, F. D., Daugherty, C. R., Sweezy, P. M.	Wage Policies	1938	yes	3	micro
Marsh, L. C., Findlay, M., McGoun, A. F.	The Arcand Act: A New form of Labour Legislation	1936	no	1	no
Norgren, P. H.	Collective Wage - Making in Sweden	1938	no	1	no
Wolman, L.	Wage Rates	1938	no	1	no
Brown, W. M.	Some Effects of a Minimum Wage upon the Economy as a Whole	1940	yes	1	micro
Henig, H and Unterberger, S. H.	Wage Control in Wartime and Transition	1945	no	1	no
Higgins, B.	Reder on Wage - Price Policy	1949	yes	1	macro
Higgins, B.	The Optimum Wage Rate	1949	yes	2	micro
Lester, R. A.	Shortcomings of Marginal Analysis for Wage - Employment Problems	1946	no	1	no
Lester, R. A.	Marginalism, Minimum Wages and Labor Markets	1947	no	1	no

Mikesell, R.	A Note on the Effects of Minimum Wages on the Propensity to Consume	1940	yes	3	micro
Mosak, J. L.	Wage increases and Employment	1941	yes	3	micro
Pierson, F.	The Determination of Minimum Wage Rates	1940	no	3	no
Ricardo, R.	Annual Wage Guarantee Plans	1945	no	1	no
Ross, A. M.	The General Motors Wage Agreement of 1948	1949	no	1	no
Slichter, S. H.	Wage-Price Policy and Employment	1946	yes	3	micro
Stigler, G. J.	The Economics of Minimum Wage Legislation	1946	yes	3	micro
Sufrin, S. C.	The Effects of Minimum Wages	1940	yes	2	micro
Bayliss, F. J.	Union Policy toward Minimum Wage Legislation in Postwar Britain	1958	no	2	no
Bowlby, R. L.	Union Policy Toward Minimum Wage Legislation in Postwar Britain	1957	no	3	no
Bowlby, R. L.	Union Policy Toward Minimum Wage Legislation in Postwar Britain: Reply	1958	no	3	no
Copland, D.	The Full Employment Economy	1953	no	1	no
Cullen, D. E.	The Interindustry Wage Structure 1899-1950	1956	no	1	no
Daugherty, C. R.	Wage Rate Control Standards	1951	no	3	no
Eastman, H. C.	The Economic Effects of the French Minimum Wage Law	1954	no	1	no
Eastman, S.	The Influence of Government on Labour Relations in France	1954	no	1	no
Horowitz, M. A.	Wage Guarantees of Road Service Employees of American Railroads	1955	no	3	no
Lester, R. A.	A Range Theory of Wage Differentials	1952	no	1	no
Lubin, I. And Pearce, C. A.	New York's Minimum Wage Law: The First Twenty Years	1958	no	2	no
Mansfield, E.	Wage Differentials in the Cotton Textile Industry	1955	no	1	no
Peterson, J. M.	Employment Effects of Minimum Wages, 1938-50	1957	no	3	no
Peterson, J. M.	Employment Effects of State Minimum Wage for Women: Three Historical Cases Re-Examined	1959	no	3	no
Reder, M. W.	Theory of Occupational Wage Differentials	1955	yes	3	micro
Rees, A.	Wage Determination and Involuntary Unemployment	1951	yes	2	micro
Richardson, J. H.	Wage Policy and a Labour Standard	1956	no	1	no
Rottenberg, S.	Economic Estimation in Minimum Wage Administration	1953	no	1	no
Salkever, L. R.	Toward a Theory of Wage Structure	1953	yes	3	micro
Soffer, B.	Cost-of-Living Wage Policy	1954	no	1	no

Baldwin, S. E.	The Effect of Fixed-Wage Rises on Discriminated - Against Minorities	1968	yes	3	micro
Benewitz, M. and Weintraub, R. E.	Employment Effects of a Local Minimum Wage: Reply Reply	1965	yes	3	micro
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Brownlie, A. D. and Hampton, P.	An Econometric Study of Wage Determination in New Zealand	1967	no	3	no
Brozen, Y.	The Effect of a Statutory Minimum Wage Increases on Teen-Age Employment	1969	yes	3	micro
Brozen, Y.	Minimum Wage Rates and Household Workers	1962	yes	3	micro
Buchanan, J. M. and Moes, J. E.	A Regional Countermeasure to National Wage Standartization	1960	yes	3	micro
Colberg, M. R.	Minimum Wage Effects on Floridas Economic Development	1960	no	3	no
Douty, H. M.	Some Effects of the \$1.00 Minimum Wage in the United States	1960	no	2	no
Eastman, S.	An Economic Analysis of the Goldenberg Report	1964	no	3	no
Fuchs, V. R. and Perlamn, R.	Recent Trends in Southern Wage Differentials	1960	no	3	no
Gutmann, P. M.	Employment Effects of a Local Minimum Wage: Reply	1965	no	3	no
Johnson, D. W.	Wage Escalators and Inflation in Denmark, 1945 - 55	1960	yes	3	micro
Johnson, H. G.	Minimum Wage Laws: A General Equilibrium Analysis	1969	no	2	no
Kalachek, E.	Determinants of Teenage Employment	1969	yes	1	micro
Lester, R. A.	Employment Effects of Minimum Wages	1960	yes	1	micro
Lukaczer, M.	The Farm Wage Worker in the Social Security Program	1969	no	3	no
Maher, J. E.	The Wage Pattern in the United States	1961	yes	3	micro
Metcalf, D.	Labour Productivity in English Agriculture, 1850-1914	1969	no	1	no
Motheral, C. L.	Minimum Wage, Factor Substitution and the Margianl Producer: Comment	1967	no	1	no
Peterson, J. M.	Employment Effects of Minimum Wages: Reply	1960	no	3	no
Segal, M.	Regional Wage Differences in Manufacturing in the Postwar Period	1961	no	1	no
Simon, J. L.	The Effect of Fixed-Wage Rises on Discriminated - Against Minorities	1967	yes	3	micro
Sowell, T.	The Shorter Workweek Controversy	1965	yes	3	micro
Yamamura, K.	Wage Structure and Economic Growth in Postwar Japan	1965	no	3	no

Adie, D. K.	Teen-age Unemployment and Real Federal Minimum Wages	1973	yes	3	micro
Ashenfelter, O. and Smith, R. S.	Compliance with the Minimum Wage Law	1979	no	3	no
Barzel, Y.	The Determination of Daily Hours and Wages	1973	yes	2	micro
Boskin, M. J. and Nold, F. C.	A Markov Model of Turnover in Aid to Families with Dependent Children	1975	yes	3	micro
Brecher, R. A.	Minimum Wage Rates and the Pure Theory of International Trade	1974	yes	2	micro
Calvo, G. A. and Wellisz, S.	Hierarchy, Ability and Income Distribution	1979	yes	2	micro
Coelho, P. R. and Ghali, M. A.	The End of the North-South Wage Differential	1971	no	3	no
Cotterill, P. G. And Wadycki, W. J.	Teenagers and the Minimum Wage in Retail Trade	1976	no	2	no
Crandall, R. W., Gramlich, E. M. and Hall, R. E.	Federal Government Initiatives to Reduce the Price Level	1978	no	2	no
Gramlich, E. M. and Wolkoff, M. J.	A Procedure for Evaluating Income Distribution Policies	1979	yes	1	micro
Gramlich, E. M., Flanagan, R. J. and Wachter M. L.	Impact of Minimum Wages on Other Wages, Employment and Family Incomes	1976	yes	1	micro
Harris, J. R. and Todaro, M. P.	Migration, Unemployment and Development: Two-Sector Analysis	1970	yes	1	micro
Hashimoto, M., Mincer J.	Employment and Unemployment Effects of Minimum Wages	1971	no	3	no
Chiswick, B. R.	Minimum Schooling Legislation, Externalities and a Child Tax	1972	no	3	no
Katz, A.	Teenage Employment Effects of State Minimum Wages	1973	no	3	no
Kosters, M. and Welch, F.	The Effects of Minimum Wages on the Distribution of Changes in Aggregate Employment	1972	yes	3	micro
Kosters, M. and Welch, F.	Union Wage Determination: Policy Implications and Outlook: Comments and Discussion	1978	no	3	no
Leffler, K. B.	Minimum Wages, Welfare and Wealth Transfers to the Poor	1978	no	3	no
Main, R. S.	The Treatment of Economic Issues in High School Government, Sociology, US History and World History Texts	1978	no	3	no
Mattila, J. P.	The Effect of Extending Minimum Wages to Cover Household Maids	1973	no	3	no
McCall, J. J.	Economics of Information and Job Search	1970	yes	3	micro
McCulloch, J. H.	The Effect of a Minimum Wage Law in the Labour-Intensive Sector	1974	yes	3	micro

Mincer, J.	Unemployment effects of Minimum Wage	1976	yes	3	micro
Mixon, Jr., J. W.	The Minimum Wage and Voluntary Labor Mobility	1978	yes	3	micro
Perry, G. L., Baily, M. N. and Poole W.	Slowing the Wage-Price Spiral: The Macroeconomic View	1978	no	2	no
Poole, W.	Thoughts on the Wage-Price Freeze	1971	no	3	no
Ragan, Jr., J. F.	Minimum Wage s and the Youth Labor Market	1977	yes	3	micro
Tyler, W. G.	Labour Absorption with Import-Substituting Industrialization	1974	no	1	no
Welch, F. and Cunningham, J.	Effects of Minimum Wages on the Level and Age Composition of Youth Employment	1978	no	3	no
Zucker, A.	Minimum Wages and the Long-Run Elasticit of Demand for Low-Wage Labor	1973	no	1	no
Allen, S. P.	Taxes, Redistribution and the Minimum Wage: A Theoretical Analysis	1987	yes	2	micro
Behrman, J. R., Sickles, R. C. and Taubman, P.	The Impact of Minimum Wages on the Distributions of Earnings for Major Race-Sex Groups: A Dynamic Analysis	1983	no	2	no
Betsey, C. L. and Dunson, B. C.	Federal Minimum Wage Laws and the Employment of Minority Youth	1981	no	3	no
Borus, M. E.	Willingness to Work among Youth	1982	no	3	no
Brown, Ch.	Minimum Wage Laws: Are They Overrated?	1988	yes	1	micro
Brown, Ch., Gilroy, C. and Kohen A.	The Effect of The Minimum Wage on Employment and Uemployment	1982	yes	2	micro
Brown, Ch., Gilroy, C. and Kohen A.	Time - Series Evidence of the Effect of the Minimum Wage on Youth Employment and Unemployment	1983	yes	3	micro
Carmichael, L.	Can Unemployment Be Involuntary? Comment	1985	yes	3	micro
Cave, G.	Job Rationing, Unemployment and Discouraged Workers	1983	yes	3	micro
Cogan, J.	The Decline on Black Teenage Employment: 1950-1970	1982	no	3	no
Defreitas, G.	A Time-Series Analysis of Hispanic Unemployment	1986	no	3	no
Djajic, S.	Human Capital, Minimum Wage and Unemployment: A Harris-Todaro Model of a Developed Open Economy	1985	yes	3	micro
Drazen, A.	Optimal Minimum Wage Legislation	1986	yes	1	micro
Ehrenberg, R. G. and Marcus, A. J.	Minimum Wages and Teenagers' Enrollment-Employment Outcomes: A Multinomial Logit Model	1982	no	2	no
Farkas, G., Smith, D. A. and	The Youth Entitlement Demonstration:	1983	yes	3	micro

Stromsdorfer, E. W.	Subsidized Employment with a Schooling Requirement				
Flug, K. and Galor, O.	Minimum Wage in a General Equilibrium Model of International Trade and Human Capital	1986	yes	2	micro
Forster, C.	Unemployment and Minimum Wages in Australia, 1900-1930	1985	no	3	no
Gordon, R. J. and Hall, R. E.	Understanding Inflation in the 1980s	1985	no	3	no
Grossman, J. B.	The Impact of the Minimum Wage on Other Wages	1983	yes	3	micro
Gustman, A. L. and Steinmeier, T. L.	A Model for Analyzing Youth Labor Market Policies	1988	yes	3	micro
Hartwell, R. M.	Discussion of Baack and Ray, Rockoff and Forster Papers	1985	no	3	no
Hashimoto, M.	The Minimum Wage Law and Youth Crimes: Time-Series Evidence	1987	yes	3	micro
Hashimoto, M.	Minimum Wage Effects on Training on the Job	1982	no	3	no
Imam, M. H. and Whalley, J.	Incidence Analysis of a Sector-Specific Minimum Wage in a Two-Sector Harris-Todaro Model	1985	yes	3	micro
Johnson, W. R. and Browning, E. K.	The Distributional and Efficiency Effects of Increasing the Minimum Wage: A Simulation	1983	yes	3	micro
Linneman, P.	The Economic Impacts of Minimum Wage Laws: A New Look at an Old Question	1982	no	3	no
MacMinn, R. D.	Job Search and the Labor Dropout Problem Reconsidered	1980	yes	3	micro
Meyer, R. H. and Wise, D. A.	The Effect of The Minimum Wage on the Employment and Earnings of Youth	1983	yes	3	micro
Meyer, R. H. and Wise, D. A.	Discontinuous Distributions nad Missing Persons: The Minimum Wage and Unemployment Youth	1983	yes	3	micro
Mitchell, D. J. and Clapp, J.	Wage Pressures and Labor Shortages: The 1960s and 1980s	1989	no	3	no
Mitchell, D. J. and Clapp, J.	The Impact of Child Labor Laws on the kinds of Jobs Held by Young School-Leavers	1980	no	2	no
Miyagiwa, K.	Human Capital and Economic Growth in a Minimum-Wage Economy	1989	yes	1	micro
Neary, J. P.	International Factor Mobility, Minimum Wage Rates, and Factor-Price Equalization: A Synthesis	1985	yes	2	micro
Neary, J. P.	On the Harris - Todaro Model with intersectoral Capital Mobility	1981	yes	1	micro

Nichols, D. A.	Macroeconomic Determinants of Wage Adjustments in White-Collar Occupations	1983	no	3	no
O'Neill, D. M.	Racial Differentials in Teenage Unemployment: A Note on Trends	1983	no	3	no
Rees, A.	An Essay on Youth Joblessness	1986	no	3	no
Shapiro, D.	Wage Differentials among Black, Hispanic, and White Young Men	1984	no	3	no
Schaafsma, J. and Walsch, W. D.	Employment and Labour Supply Effects of the Minimum Wage: Some Pooled Time-Series	1983	no	3	no
Solon, G.	The Minimum Wage and Teenage Employment: A Reanalysis with Attention to Serial Correlation and Seasonality	1985	no	3	no
Swidinsky, R.	Minimum Wages and Teenage Unemployment	1980	no	3	no
Swidinsky, R. and Wilton, D.	Minimum Wages, Wage Inflation and the Relative Wage Structure	1982	no	1	no
Tauchen, G. E.	Some Evidence on Cross-Sector Effects of the Minimum Wage	1981	yes	3	micro
Addison, J. T. and Blackburn, M. L.	Minimum Wages and Poverty	1999	yes	2	micro
Baker, M., Benjamin, D. and Stanger, S.	The Highs of the Minimum Wage Effect: A Time - Series Cross - Section Study of the Canadian Law	1999	no	3	no
Bell, D. N. and Wright, R. E.	The Impact of Minimum Wages on the Wages of the Low Paid: Evidence from the Wage Boards and Councils	1996	no	1	no
Bell, L. A.	The Impact of Minimum Wages in Mexico and Columbia	1997	yes	2	micro
Bhaskar, V. and To, T.	Minimum Wages for Ronald McDonald Monopsonies: A Theory of Monopsonistic Competition	1999	yes	1	micro
Boal, W. M. and Ransom, M. R.	Monopsony in the Labor Market	1997	yes	2	micro
Bound, J. and Freeman, R. B.	What Went Wrong? The Erosion of Relative Earnings and Employment Among Young Black Men in the 1980s	1992	no	1	no
Card, D.	Do Minimum Wages Reduce Employment? A Case Study of California_1992	1992	no	1	no
Card, D.	Using Regional Variation in Wages to Measure the Effects of the Federal Minimum Wage	1992	no	1	no
Card, D. and Krueger, A. B.	Time-Series Minimum-Wage Studies: A Meta-analysis	1995	no	1	no
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Currie, J. and Fallick, B. C.	The Minimum Wage and the Employment of Youth Evidence from the NLSY	1996	no	3	no
Deere, D., Murphy, K. M. and Welch, F.	Employment and the 1990-1991 Wage Hike	1995	no	3	no
Dickens, R., Machin, S. and Manning, A.	The Effects of Minimum Wages on Employment: Theory and Evidence from Britain	1999	yes	1	micro
Fitoussi, J. P.	Wage distribution n Unemployment: The French Experience	1994	no	1	no
Fraja, G.	Minimum Wage Legislation, Productivity and Employment	1999	yes	1	micro
Freeman, R. B.	The Minimum Wage as a Redistributive Tool	1996	no	3	no
Gowers, R. and Hatton, T. J.	The Origins and Early Impact of the Minimum Wage in Agriculture	1997	no	3	no
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Holzer, H. J., Katz, L. F. and Krueger, A. B.	Job Queues and Wages	1991	no	1	no
Kaestner, R.	The Effect of Government-Mandated Benefits on Youth Employment	1996	no	3	no
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Katz, L. F. and Krueger, A. B.	The Effect of the Minimum Wage on the Fast-Food Industry	1992	no	1	no
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Masters, A. M.	Wage Posting in Two-Sided Search and the Minimum Wage	1999	yes	3	micro
McGregor, P.	A Model of Crisis in a Peasant Economy	1990	yes	3	micro
Metcalfe, D.	The Low Pay Commission and the National Minimum Wage	1999	no	1	no
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Seltzer, A.	Causes and Consequences of American Minimum Wage Legislation	1995	no	3	no
Seltzer, A.	The Effects of the Fair Labor Standards Act of 1938 on the Southern Seamless Hosiery and Lumber Industries	1997	no	3	no
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Van den Berg, G. J. and Ridder, G.	An Empirical Equilibrium Search Model of the Labor Market	1998	yes	3	micro
Wellington, A. J.	Effects of the Minimum Wage on the Employment Status of Youths: An Update	1991	yes	1	micro
Aaronson, D.	Price Pass-through and the Minimum Wage	2001	no	3	no
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Alexopoulos, M.	Growth and Unemployment in a Shirking Efficiency Wage Model	2003	yes	3	micro
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Black, D. A., McKinnish, T. G. and Sanders, S. G.	Tight Labor Markets and the Demand for Education: Evidence from the Coal Boom and Bust	2005	no	3	no
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Butcher, K. F. and Rouse, C. A.	Wage Effects of Unions and Industrial Councils in South Africa	2001	no	2	no
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Dickens, R. and Manning A.	Spikes and Spill-overs: The Impact of the National Minimum Wage on the Wage Distribution in a Low-Wage Sector	2004	no	1	no
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Flinn, C. J.	Minimum Wage Effects on Labor Market Outcomes under Search, Matching and Endogenous Contact Rates	2006	yes	1	micro
Ippolito, R. A.	The Impact of the Minimum Wage if Workers Can Adjust Effort	2003	yes	1	micro
Koeniger, W., Leonardi, M. and Nunziata, L.	Labor Market Institutions and Wage Inequality	2007	no	3	no
Kreickemeier, U.	Unemployment and the Welfare Effects of Trade Policy	2005	yes	2	micro
Laroque, G. And Salanié, B.	Labour Market Institutions and Employment in France	2002	no	3	no
Machin, S. and Wilson, J.	Minimum Wages in a Low-Wage Labour Market: Care Homes in the UK	2004	no	2	no
Metcalf, D.	The Impact of the National Minimum Wage on the Pay Distribution, Employment and Training	2004	no	1	no
Neumark, D.	Living Wages: Protection for or Protection from Low-Wage Workers?	2004	no	3	no
Neumark, D. and Adams, S.	Do Living Wage Ordinances Reduce Urban Poverty?	2003	no	3	no
Neumark, D. and Nizalova, O.	Minimum Wage Effects in the Longer Run	2007	no	3	no
Neumark, D. and Wascher, W.	State-Level Estimates of Minimum Wage Effects: New Evidence and Interpretations from Disequilibrium Methods	2002	yes	3	micro

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Rama, M.	The Consequences of Doubling the Minimum Wage: The Case of Indonesia	2001	no	3	no
Simon, K. I. and Kaestner, R.	Do Minimum Wages Affect Non-Wage Job Attributes? Evidence on Fringe Benefits	2004	yes	2	micro
Stevens, M.	Wage-Tenure Contracts in a Frictional Labour Market: Firms' Strategies for Recruitment and Retention	2004	no	1	no
Stewart, M. W.	The Employment Effects of the National Minimum Wage	2004	no	1	no
Teulings, C. N.	The Contribution of Minimum Wages to Increasing Wage Inequality	2003	yes	3	micro
Teulings, C. N.	Aggregation bias in Elasticities of Substitution and the Minimum Wage Paradox	2000	yes	2	micro
Van den Berg, G. J.	Multiple Equilibria and Minimum Wages in Labor Markets with informational Frictions and Heterogenous Production Technologies	2003	yes	1	micro
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Walsh, F.	Comment on "Minimum Wages for Ronald McDonald Monopsonies: A Theory of Monopsonistic Competition"	2003	yes	2	micro
Yaniv, G.	Minimum Wage Noncompliance and the Employment Decision	2001	yes	3	micro
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