

Investigation the effect of the minimum wage on employment in the informal labor market: PLS approach

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Abstract: Background: Determine of minimum wages is one of the controversial economic issue of each country. Investigation the effect of minimum wages on employment and labor is vital subject that has bothered minds of many policymakers and economists. In this paper the effect of raising the minimum wage on employment in the informal labor market, which contributes significantly to policymakers and economists has been investigated. The result of study showed that increasing the real wage has a significant positive effect on daily increase of informal employment. In this paper, using MIMIC model and PLS approach and considering Informal Employment as a hidden variable and the real minimum wage as one of the main reasons for the creation and expansion of informal activities, informal relationship is estimated between minimum wages and employment. Research suggests that the minimum wage act is an important factor in determining wage levels, but can not guarantee formal jobs. Minimum wage laws in practice would make low-skilled workers out of the formal labor market and increased input unemployed persons to informal jobs. Thus, minimum wage law is likely to increase the informal employment. Based on daily increase of development in the informal sector, this sector should be seen as one of the most important economic sectors.

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Introduction

Labor market is considered as one of the main sectors of the economy, due to have young healthy people as the most important factor of production. Based on the importance of the labor market has played an important role in creating a balance in the economy, Understanding the structure of labor markets and the nature of their various demands is really necessary. Among the different divisions in the labor market, the informal sector has particular importance.

Due to the growing supply of labor and institutional barriers such as inflation, unemployment and taxes especially in recent years, it is expected that the growth of the informal sector is high and many employees are in their place. But the volume of such activities is added and employment in the informal sector is a wider dimension, ignoring the part of policy decisions particularly in relation to the labor market. The main causes of informal employment economy are one of the most controversial issues. Various surveys have been conducted within the field of taxation, inflation, unemployment, trade costs and the minimum wage causes of informal employment is effective.

In this article we take the effect of minimum wage increases on employment in the informal labor market to explore. Minimum wage laws to ensure minimum living standards for workers with the least skills and income are used. But in some cases, the minimum wages of formal sector workers who become unemployed are worse off than before, and the result is an increase in informal employment. Therefore, in this

study, the theoretical foundations of economic models to assess the effects of minimum wage increase on employment and informal paid labor market.

Theoretical principles

The minimum wage is one of the controversial economic policies. Since the aim of this study was to investigate the effect of minimum wage increases on employment is informal, initially focusing on different aspects of the minimum wage continues to review and economic model of the real wage informal employment is determined.

This study is the first to provide definitions of key variables that are to be paid minimum wage and informal employment.

Many other economists believe that minimum wage laws protect workers; the employers are able to exploit them and thus reduce poverty. Most economists believe that minimum wage laws cause problems for the people who are supposed to be helping them, would create. The reason is simple. Although minimum wage laws can set wages, but can not guarantee jobs. These rules of practice are often low-skilled workers out of the labor market. Employers are typically willing to pay that amount to the employee's work is more than worth the extra production. It is believed that a low-skilled workforce without the skills or the cost of capital for high-skilled workers and the employer is considered.

The one hundred and eighth meeting of experts from the International Labor Organization's definition

of the minimum wage has been provided below: "The minimum wage is the lowest wage that reflects the common law or the law regardless of the calculation method or a qualified worker in a job is determined. Minimum wage or the wage that each country has legal validity of the job is determined and criminal sanctions (or other appropriate guarantees) comes into force. "

Institute of Labor and Social Security in 2001, the minimum wage is defined as: the purpose of the minimum wage, which is paid regardless of the laws governing wages and worker productivity, and other relationships such as supply and demand of labor bargaining power woman and collective bargaining, only the biological and economic considerations will determine the worker and his family (Saeednia, 2006).

Defined in ILO (2002), informal employment, informal employment to all people who are employed within a specified time regardless of whether they are employed in primary or secondary jobs, such as working people, housewives and producing goods that be prepared for final use by households as subsistence farmers report (ILO, 2002, translated by Ziaei Bigdeli, 2004, p 21).

The main objectives of the minimum wage:

A: To prevent the exploitation of labor, usually by paying low wages and poor working conditions to show off.

B: an instrument for policies that will lead to rapid growth and equitable distribution of income.

C: other higher wage levels, because of the steady rise in prices, real wages of workers has been declining.

D: the elimination of competition by resorting to illegal employers who reduce or hold down wage levels along with the competitors do not produce the cheap goods (hamadani, 2001).

Formal wage increases and declining real wages increase labor supply and labor demand and consequently the reduction of unemployment increases. Due to the decline in real wages and purchasing power, people are forced to earn a living in addition to their main job to another job (informal jobs), followed by a few other job applicants will have access to jobs. It is necessary to note that the increase in real wages and labor becomes more expensive, the demand decreases. To deal with this problem, the government can reduce the policy, such as employers 'share of employees' insurance premiums and in some countries, such as wage subsidies to adopt. On the other hand, expansion of social security and pension systems, the inability to pay the pensions of retirees who continue to work in informal jobs in the informal sector, and the supply of labor increases (Alimoradi et al., 2007).

ILO minimum wages for the following criteria are considered:

- 1- The needs of workers and their families.
- 2- Relative living standards of other social groups
- 3- The cost of living and the changes caused
- 4- Social security benefits
- 5- The general level of wages in the country.
- 6- Economic factors, including the requirements of economic development, levels of productivity and employment levels.

In addition to the minimum wage nations can be measured by two criteria:

A) In terms of economic criteria

B) Put in the context of social norms.

Two competing with some of the mainstays of theoretical debate over the minimum wage thus have influenced the look of a complete disregard for the human despite all the international experience of social wealth as the usual have a look at rival any attention to the problems and bottlenecks in production and is also the economic situation. At first glance often raised by employers and the foundations of neoclassical economics community absolute dominance over the market wage are required to know and believe that:

1. Increasing labor productivity and real wages subject to the conditions of perfect competition, it can be done.

2. Minimum wage on employment and wage inequality has a direct impact on the government deficit will also increase the minimum wage is to inflationary effects.

3. The minimum wage is a serious obstacle in the way of the market mechanism.

4. The minimum wage is the main obstacle in the business space (Saeednia, 2006).

Determination of the minimum wage: An adjustment in the minimum wage and its social impacts - economic, which has several important points are:

Impact on poverty: The main objectives of the minimum wage reduce poverty among low-income workers. The aim is to increase the minimum wage low-income people to be able to cover their basic needs. It should be noted that the minimum wage can affect the living standards of families in which one member is working.

Impact on the government budget: the rise of public sector workers to pay workers employed by government contractors, government spending raises wages.

Effect on Prices: The prices depend on the effect of this is:

1- Workers receive a percentage of production costs make up the minimum wage.

2- What is the elasticity of demand for goods produced by firms?

3- What employers to increase labor costs to the price of manufactured goods, the consumer transfers?

(Alimoradi et al, 2007).

Effect on the level of other wage level paid minimum wage as the first category, the relative wage of the other categories of effects that impact the bottom lines of the top wage.

Impact on employers: Some believe that a minimum wage employers and employees alike will benefit. It breaks down the price by employers against other competitors looking to pay less than fair wage labors are supported. It is possible that the firm can not raise prices of products increase the employer's profit margin is low.

Effects on Productivity: To avoid the negative effects of minimum wage increases on inflation and employment increasing number of researchers believe that the minimum wage is associated with increased productivity.

Effect on the employment: effects of the minimum wage on employment and distribution, has attracted the most attention. Opponents assert that higher minimum wages increase firms' costs and therefore less likely to be employed and some employees as a result of this policy is likely to lose their job. Most studies about the negative impact of minimum wages on employment and youth groups because of their emphasis on experience and skills and are less capital than older age groups (Saeednia, 2006).

In recent decades, according to several studies using time series data indicated that minimum wage laws reduce employment. Estimates of job losses on current levels of wages in America suggests that a 10 percent increase in the minimum wage, low-skilled workers to employment rates of 1 or 2 percent down. Also found that job losses for African-American teenagers is even higher, because it is possible that the strata are altogether fewer skills. In this section, the effect of the minimum wage on employment in the above briefly discussed to provide a theoretical basis.

In this section, the effect of the minimum wage on employment in the above briefly discussed to provide a theoretical basis in this regard.

Theoretical Foundations

To examine the effect of minimum wages on employment, the standard economic model, we examine the impact of minimum wages on employment. The important assumption is that all sectors of the economy (all employees) are required to comply with the minimum wage law. This part of the study Pazhouyan and Amini (2004) has been adopted. With the minimum wage above the equilibrium wage (w_m), firms will move on the demand curve upward, resulting in reduced employment in Chart 1.

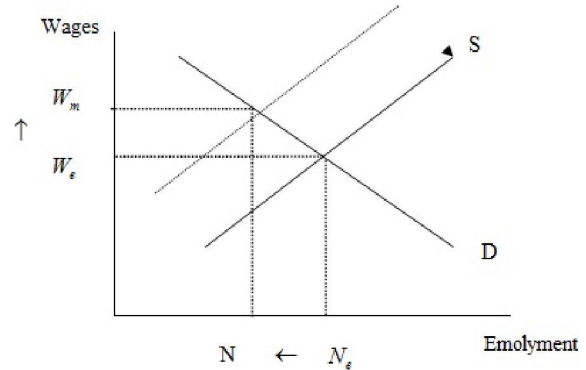


Chart 1: The effect of minimum wages on employment

In the above standard model, it was assumed that all firms are required to comply with the minimum wage law, but it is not the real world and a significant proportion of firms are violating the law and the criminal enterprises of their entrapment is much more likely to be low.

In this section, the informal sector is covered by the law firms that are in the formal sector and the informal sector enterprises outside of the call.

With the minimum wage in the formal sector, wage increases in the minimum wage set employment declined and some workers will lose their jobs in this part of the diagram (1), unemployed due to the increase in minimum wages in the formal sector, the sector of informal travel and labor supply in this sector increased by moving the supply curve down, wages in the informal sector decreases and employment increases (Fig. 2).

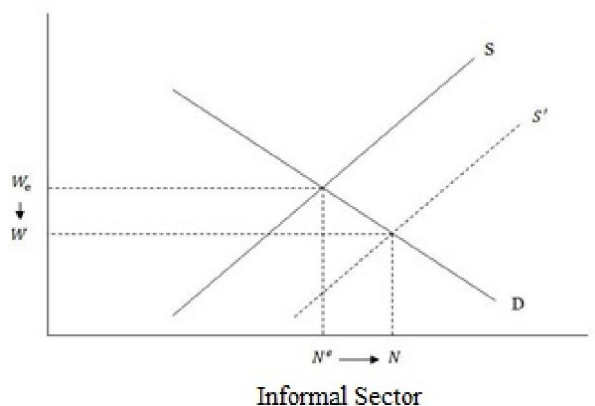


Chart 2: The effect of minimum wages on employment in the informal sector

So according to economic principles described in the previous section, the minimum wage is one of the reasons people are turning to the informal labor market, the informal employment increases. Should be given to informal employment and the informal sector should not be viewed as being negative. Because of its informal activity is very important for the economy.

In this section, we will examine some of the causes of the informal sector.

The importance of the informal sector

Expanding informal labor market, not only in developing countries but also in industrialized countries is growing rapidly and it can not be regarded as a temporary phenomenon. The importance of the informal market is even more essential. The main reason for the importance of the informal labor market is expressed as follows:

- A. Supply items needed low:** a raw material of the informal sector workforce is employed in the production of goods and services are generally inexpensive and are available at the site. Even the reusable scraps or reconstituted as the raw materials they use. Products and services in the informal sector due to the budget of the poor countries that provide cheap goods fail to conform to the formal sector (Sarrami, 1993, p 58). The goods and services, due to cheap raw materials and technology, the user has a very low price compared to the formal sector is the production of goods and services. But in terms of quality compared to goods produced in the informal sector are low (BabaHeydari, 2001).
- B. Strengthening the monitoring and control of bureaucracy:** Most of the activities of the labor market, due to truancy laws and regulations, and shirk their rightful dues to the government; the people and entities hidden away from the eyes of employees are engaged in activities. The identification of those units, the monitoring should be done on these units, and their responsibilities towards the society will realize (Science, 1984).
- C. Inhibition of employment and unemployment:** the unemployment Global Statistics show that within 10 years nearly a million jobs will be created. Unemployment and employment opportunities than any other time of application for investment in job creation requires more. Provision of infrastructure and productive investment in different sectors require appropriate political, social and economic (BabaHeydari, 2001). However, factors such as lack of security, investment, investment in small industries and activities in support of working groups, and different interest rates for different sectors of the economy against inflation investing acts Bank some Rules false foreign policy, monetary and fiscal obligations and other tasks such as banking facilities granted to applicants lack of investment in the resource allocation, resource limits for investment in other sectors. Suppliers due to the impact of labor laws on investment and employment, leading to increased production costs, thereby reducing the incentives for employers to invest more but not unemployment has increased and will only support worker, all mentioned factors may reduce the incentive to invest in creating opportunities and removing leaves can invest in modernizing the way and to attract new workers there. One of the differences between formal and informal sector employment, is the capital of (Iran Statistical Center, 2004). Create any jobs in the formal sector requires investment in many of the capital of the state is an impediment to job creation, and many people who do not have sufficient funds to go towards the informal sector and where to find work and do business. Recent research indicates the fact that the 1.4 to 2.3 of the workforce in the informal sector plant (Aman, 1987, page 20), the 25 percent to 65 percent of the workforce attracts jobs Unofficial being (Hammer and Manle, 1989). So the problem of investments for job creation in the formal sector, and attracting a large number of unemployed by informal units, more than ever, the importance of the informal sector labor market is increasing.
- D. The transfer of skills through informal education (teacher / student):** skills outside the formal system and transfer it to newcomers informal sector, the informal sector is considered one of the properties. The informal sector consists of small units is the educational system in the master system / students. This type of training is a direct return to the pupil or his or shop as a skilled worker in the workplace remains to be established and start. The educational institution has been successful in transferring these skills to the extent that some countries take steps to strengthen teacher / student taken report (ILO, 2002, translated by Zia'i Bigdeli, 2004, p 208). The common feature of these centers can cut costs stated in the informal sector. Notably, although the traditional apprenticeship system in the official camps for those who have been deprived of any reason for the system to be useful, but it is necessary to correct the weaknesses in the system requires.
- E.** Given the importance of this sector, the informal labor market status of the ILO "do not deserve" as is. Low income, lack of social support, lack of proper place in society, poor quality unproductive

jobs, and this section is not working properly. It will be recalled that the term informality means the absence of any rule and not the norm for the active control. This type of political economy or group of informal rules, procedures, institutions and structures to transfer their skills and findings are considered. What we do know is that the rules and norms of what is on the report (ILO, 2002, translated Zia'i Bigdeli, 2004, p 21).

Literature review

David Lee & Emmanuel Saez (2008), in an article titled Optimal Minimum Wage Policy in Competitive labor markets have the effect of minimum wages on employment. The two agree that the minimum wage is an important tool in redistributing income through wage increases for workers with lower skill and lower-paying and low-income people with different incomes. But in many cases leads to involuntary unemployment and minimum wages for workers through unemployment, welfare decreases.

T.H.Gindling and Ketherine Terrell (2004), believe that the minimum wage is higher than the wages paid workers in the informal sector, informal sector workers, which reduces the difference between the two is the average wage. And this tends to lead people into employment is informal.

World Bank report showed job losses of the official minimum wage is increased, this led workers to enter the informal labor market, low wages, and employment in this sector will increase (World Bank, 1990, p 63).

Pzhouyan and Amini (2004), in the general, the real-wage employment by gender and age distribution of the mess were considered by them. The two, avoiding the real wage due to the younger crowd, there is no social security system effective, efficient and inclusive as important.

Isazadeh and Saeednya (2007), although it appeared to increase the minimum wage for low-income workers, but because it reduces the demand for labor, wages, and unemployment will rise.

Arabmazar (2005), one of the hidden reasons for keeping the activities of public officials and increasing informal activities, avoiding legal standards such as minimum wages stated.

Method:

To estimate the impact of minimum wages on employment in the informal labor market, the Model Mimic Partial Least Squares Approach for Visual Software Foundation El-MS is used. In economics, as in other branches of the humanities, there are important variables that explain that they are not directly observable or measurable. Such as permanent income, the amount of tax evasion, black economy ... These

variables are all concepts that are not directly measurable or is not visible due to various reasons, but in order to measure them can be a model Multiple Indicator - of Multiple (MIMIC) is a special case of structural equation are used to. Only a hidden variable in the MIMIC model (informal employment) is there. Vector of variables, X is a vector of latent variable holds. In the study of inflation, unemployment, taxes and the minimum wage is used, only the actual effects of minimum wages on informal employment are examined. Vector and Y variables indicators (effects) are hidden variables.

The only investment, energy, distribution of income and GDP growth are used as informal employment effects. This particular case, the modeling, the hidden variable characters are displayed.

This structural equation model can be summarized as follows:

$$(1) \quad Y_p \times_1 = \lambda_{yp} \times_1 * \eta + \varepsilon_p \times_1$$

$$\eta = \gamma_1 \times_q * X_q \times_1 + \zeta$$

The first equation of the system of equations (1) as the measurement model and the second equation, which is a structural equation model, are shown separately below.

Measurement equation model:

$$(2) \quad y_t = \lambda \eta_t + \varepsilon_t$$

$$(3) \quad E(y_t) = E(\varepsilon_t) = 0$$

Structural equation modeling:

$$(4) \quad \eta_t = \gamma' x_t + \zeta_t$$

$$(5) \quad E(\eta_t) = E(x_t) = E(\zeta_t) = 0$$

By substituting equation (4) in equation (2), a regression equation is obtained.

$$(6) \quad y = \Pi x_t + z_t$$

$$(7) \quad \Pi = \lambda \gamma'$$

$$(8) \quad Z_t = \lambda V_t + \varepsilon$$

η_t : Observable variable (the unofficial labor market)

y_t : Vector ($p * 1$) was observed in the indices of employment in the informal labor market

x_t : Vector ($q * 1$) rise of informal employment.

λ and γ : Vectors, ($P * 1$) and ($q * 1$) of the parameters, respectively.

ζ_t and ε_t : respectively are Scalar and vector, respectively ($p * 1$)

Assuming the errors is normally distributed and the correlation between them is bidirectional (Watch & Schneider, 2008). Software used to estimate

the model to estimate the system of equations that includes the many intangible variables or variables with the volume very low (below 100) are to be given, as in this study, a sample size of 35 years (1962-2006).

Such a system of equations to estimate LISREL software has the maximum likelihood method is used, but studies show that low end, it is not suitable to estimate sample size. Naser and Visenkber (2003), covariance-based structural equation modeling (LISREL) requires a sample size of over 100, regardless of the other characteristics of the data have been expressed (Naser and Visenkber., 2003, pp. 754). A group of researchers from at least 200 observations to estimate the parameters of the LISREL structural equation (Marsh et al, 1998), LISREL results can not be interpreted to avoid such negative variance in the estimates or in the absence of solidarity a (Dillon, Kumar & Mulani, 1987) as are necessary.

The model results:

Period of this study (1389-1354) is considered. All data are time series and year of foundation in 1997. Mimic and the Model Visual Software Foundation - L - S, the parameter estimates for the variable wage plus sign and are statistically significant. This parameter indicates positive people entering the informal labor market, the minimum wage is increased.

Variables	Coefficient	The standard error	Statistical t
Minimum Wage	0.5880	0.2308	2.5482

With regard to the above table is that the estimate of software Visual S. P. L., impact factor represents a 1 percent increase in the minimum wage rate, the share of informal workers in the labor market over the 0.5% increase. During the course of 35 years of research shows that informal employment, in the upside level.

During the studies, the main reason for the significant decline in employment in the informal labor market in times of war to reduce the rate of minimum wages in this period. Statistics show that in fact the war years, the minimum wage level slightly lower than the figures have been calculated in accordance with the criteria, in the years after the war ended with Iran's law enforcement career has been marked in accordance with amounts specified above figures have been documented.

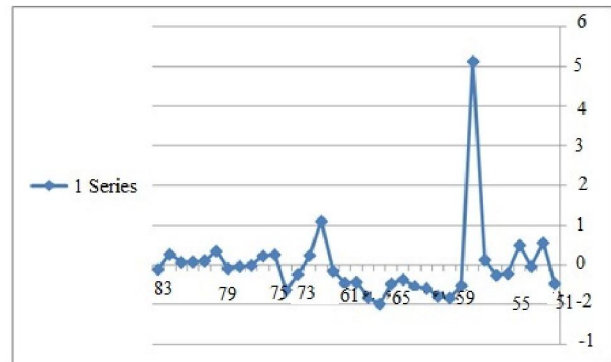


Chart 3: Diagram of the model for estimating the minimum wage rate

Conclusions:

1- unskilled, minimum wage laws are in addition to the difficulties in finding formal employment are reduced employment benefits (such as paid vacation, free room and board, insurance, cheap, subsidized child care and job training) many of low-wage workers.

2- The probability that the minimum wage increase through higher wages to the poor to escape poverty, and increases the risk increases, the other families affected by poverty are not poor, they increase the minimum wage to the family of the labor market.

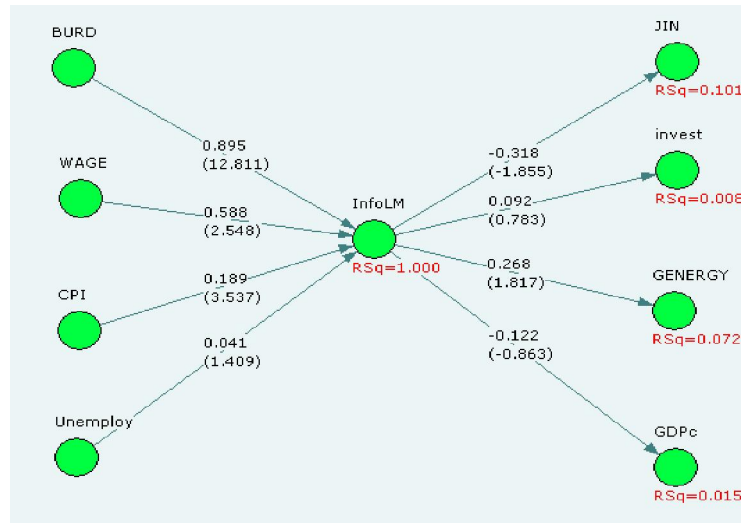
3- The effect of minimum wage increases unemployment among low-income families will be the focus. This suggests that high wage, high-income families generally, rather than income transfers to low-income families, it is redistributed among low-income families.

4- Although some families have benefited from the increase in the minimum wage, but these policies generally closer to the poor families in poor families increases.

5- Increase the minimum wage to workers out of jobs in the formal and informal employment is barred.

6- Due to the problems and advantages of the informal sector in developing countries, according to this section, and identify obstacles and difficulties in the way of the informal sector is essential and according to this section shall be placed on the agenda of governments and policy makers.

Visual PLS Report
Thu Apr 09 08:22:48 2009



Factor Loading, Residual and Weights						
Constru	Indicator	Mean	Stdev	Loading	Residual	Weight
BURD	Gburdimp	3.096526	25.681909	0.541800	0.706500	0.615500
	GBURD	7.734088	34.241065	0.790000	0.375900	0.843800
WAGE	Gwage	4.182364	26.860612	1.000000	0.000000	1.000000
CPI	cpi	18.234571	8.597725	1.000000	0.000000	1.000000
InfoLM	ILM	9.029796	9.153744	1.000000	0.000000	1.000000
JIN	jini	0.411146	0.063336	1.000000	0.000000	1.000000
invest	GINVEST	7.225732	27.188762	1.000000	0.000000	1.000000
GENERGY	ENERGY	4.194845	6.001695	1.000000	0.000000	1.000000
GDPc	GDP	3.638265	7.250977	1.000000	0.000000	1.000000
Unemploy	unemp	11.901429	1.761514	1.000000	0.000000	1.000000

Structural Model—BootStrap					
		Entire Sample estimate	Mean of Subsamples	Standard error	T-Statistic
	BURD->InfoLM	0.8950	0.8714	0.0699	12.8108
	WAGE->InfoLM	0.5880	0.6065	0.2308	2.5482
	CPI->InfoLM	0.1890	0.1825	0.0534	3.5366
	Unemploy->InfoLM	0.0410	0.0512	0.0291	1.4089
	InfoLM->JIN	-0.3180	-0.3105	0.1714	-1.8551
	InfoLM->invest	0.0920	0.1627	0.1175	0.7830
	InfoLM->GENERGY	0.2680	0.3151	0.1475	1.8171
	InfoLM->GDPc	-0.1220	-0.2224	0.1413	-0.8635

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