

EFFECT SUPPLY OF LABOR THE CITY OF PADANG AND ESTIMATE THE YEAR 2014 – 2018

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Abstract: This study analyze the pattern of labor force supply in Padang City during the period of 2009 – 2013 and to see it prospects for the period of 2014 – 2018. Data for this study come from the 2009 - 2013 National Labor Force Survey and the 2009 – 2013 Padang City in the Figures. A results of analysis show that the number of population in Padang City in 2009 is 875.750 people, increased to 876.678 people in 2013. Therefore during the period of 2009 – 2013 the population in Padang City increase by 0,03 per cent per year. The labor force also increased from 353.238 in 2009 to 361.071 people in 2013, with the growth rate of 0,55 per cent per year. While the growth of women labor force is much better than men labor force. These large of population and labor force indicate the bigger challenge faced by Padang City in the future.

Key Words: Padang, Population, Supply of Labor

1. INTRODUCTION:

General condition of labor in the City of Padang very complex and multi-dimensional. The problem is intertwined with other aspects such as the number of large population and relatively high growth rate unevenly distribution, young age structure, and a low quality. Central Bureau of Statistics (CBS)) noted that the inhabitants of the City of Padang increased from 875.750 soul in 2009 become 876.670 soul in 2013, with the growth rate of 0.03 percent per year. At the level of the growth is expected to the inhabitants of the City of Padang will reach more than 877 thousand souls in 2018. In line with the population growth, the labor force increased from 353.238 people in 2009 become 361.071 people in 2013, and will reach around 372 thousand on 2018. From 372 thousand labor force, mostly young labor age of 15 - 24 years (Adha Inapty & Martiningsih, 2016).

The City of Padang also facing a serious unemployment problem. The number of open unemployment in 2013 reached 50.505 people. In addition to the imbalance between the supply and demand of labor, a high level of unemployment in the City of Padang also caused by the problems found in the labor market, the incompatibility between expertise owned by job seekers with the needs of the labor market. The system of education and training has not been able to produce skilled labor and skilled in according to the needs of the labor market. As a result on the one side there are the advantages of educated labor, on the others hand the shortage of educated workers.

With increasing population and the labor force on the one side, and the limited employment opportunities in the other side has resulted in an imbalance between the supply and the needs of the labor force. When the problem is not resolved successfully can have an unfavorable impact in the social, economic, political and security. Handling of employment issues can only succeed if it is based on a good labor planning. The problem that must be faced is how to find the right balance between the growth of the labor force with employment opportunities in the development process. Hence, we need to do the labor supply projections in relation to the efforts of the creation of job opportunities in the future.

2. THE PURPOSE OF THE STUDY:

The main purpose of this study is to have an idea about the development of the preparation of the labor force in the City of Padang. More specifically this research aims:

- a. Analyzing the development of the labor supply during the period of 2009 - 2013.
- b. Make labor supply projections for the period of 2014 - 2018.

3. THE DATA AND METHODOLOGY:

3.1. Data Source

The Data used is the secondary data that publish by BPS and other related government agencies. Publication Data BPS especially is the results of the survey data of the National Labor force (Sakernas) and Padang in the number 2009 - 2013. In addition, the existing research data are also used, especially the findings of the experts in the field of employment.

3.2. Analysis Methods

Analysis the development of the labor supply is the descriptive analysis by using table of frequency and cross-tabulation. The labor force estimates obtained by multiplying projection results of the labor force participation rate (TPAK) with the projection of working-age population (15 years). While projection of working-age population obtained from the results of the projection of the population. Thus the labor force projections obtained from two projection, namely TPAK projections and the projection of the population.

3.2.1. TPAK Projection

TPAK projection is done by using indirect eksxtrapolation method. This method is based on the percentage of population data that is not active in the economy (schools residents, household, pensions and other categories) from working-age population. This method is very suitable to be applied in countries where his TPAK increase gradually (United Nations, 1971), as experienced by Indonesia. This indirect eksxtrapolation method can be written in the form of the following formula :

$$A_{t_1}^x = 100 - E_t^x[(\gamma - 1)(A_t^x \times E_t^x / A_{t_0}^x \times E_{t_0}^x) + 1]$$

$$\gamma = E_t^x / E_{t_0}^x$$

Where :

- A^x = percentage of the population that is active in the economy to the age of χ
- E^x = percentage of the population that is not active in the economy to the age of χ
- t₀ = beginning of basic period
- t = the beginning of the projection period or end of basic period
- t₁ = the end of the projection period

3.2.2. Population Projections

Cohor Change Rate method applied to projected population until 2018. Population projections by this method based on the level of changes Cohor villagers from the two censuses or surveys of the population. According to Pollard and friends (1975), Cohor Change Rate method is a method of accurate population projections if the quality of the population data available good enough.

The basic data that used for the projection of the population is from the results of the survey of National Labor force (Sakernas). Based on the consideration that the data from the National labor force Survey available until 2013.

4. THE DEVELOPMENT OF THE LABOR SUPPLY 2009 – 2013.

The growth of the labor force was influenced by Demographic factors and socio-economic factors. Demographic factors that are considered to be important implications for the structure of the labor force is age and gender. While the socio-economic factors that great influence over t.l.he labor force is the level of education. In this section will be seen the pattern of the development of the labor force in the City of Padang during the period of 2009 - 2013 according to age group, gender and level of education.

4.1. The Development of The Labor Supply According To Age Group

One of the important factors that affect population growth is the level of birth. High level of birth will create the structure of the young age, than will affect the amount of the labor force when they entry to the working age. The Data in table 1 shows the development of the labor force according to age groups in the City of Padang during 2009 - 2013. The number of the labor force in the City of Padang on 2009 is 353.238 people, rise to 361.071 people in 2013. Thus, during the period of 2009 - 2013 labor force in the City of Padang had increased by 7.833 people or means an increase of 0.55 percent per year.

The labor force in productive age (25 - 54 years) greater than the other age group. From Table 2 generally the percentage of employment in the young age (15 - 24 years) and old age (55 +) decline, while the percentage of the labor force adulthood (25 - 54 years) increase during the period of 2011 - 2013. This shows that the structure of the age of the labor force tend to shifting toward productive age structure.

Table 1. The development of the labor force according to age groups in The City of Padang, 2009 - 2013 (people).

Age Group	2009	2010	2011	2012	2013
15 - 19	22.134	18.671	28.912	16.170	23.978
20 - 24	50.421	47.565	57.161	40.962	48.927
25 - 29	53.448	58.114	55.311	51.322	51.240
30 - 34	49.601	47.443	48.818	49.347	52.677
35 - 39	44.812	40.608	40.243	41.228	37.386
40 - 44	39.020	45.624	51.492	40.113	44.439
45 - 49	39.213	37.494	40.834	36.185	35.718

50 - 54	30.553	30.001	31.368	28.794	35.139
55 - 59	13.537	18.474	27.294	20.380	16.790
60+	10.499	13.212	19.487	10.190	14.777
The number of	353.238	357.206	400.920	334.691	361.071

A shift in the structure of the age of the labor force is more prominent in the city area than in the rural areas and even in rural area the trend is decreasing. This situation is connected with the movement of people from the village and from other areas to the City of Padang is increasing. Todaro and Shikind (1981) concluded that the growth of the city of a large part caused by great migrants. More information said that in developing countries estimated about a third or a quarter of the growth of the city due to the migration of young age.

To measure the activity level of the population in the economy can be seen from the level of the labor force participation (TPAK). This TPAK is a massive that obtained from the percentage of the number of the labor force against the inhabitants of working life. Table 3 shows the development of TPAK according to age groups in the City of Padang from 2009 until 2013. From Table 3 is shown that TPAK in Padang City shows the pattern of ascending. Overall TPAK increased from 55,99 percent on the year 2009 become 57,43 percent in 2013.

Table 2. The Proportion of the Labor Force According to Age Groups and Homebase Area in the City of Padang, 2011 and 2013 (%).

The Variables	2011	2013
The city :		
Young age (15-24 years)	21,50	19,87
Productive age (25-54 years)	66,72	71.40
Old age (55+ years)	11,78	8.73
The number of	100,00 (385.558)	100,00 (345.186)
The village :		
Young age (15-24 years)	20,62	27,13
Productive age (25-54 years)	70,36	Raising
Old age (55+ years)	9,02	9,10
The number of	100,00 (15.362)	100,00 (15.885)
The city + Villages		
Young age (15-24 years)	21,47	20,19
Productive age (25-54 years)	66,86	71.07
Old age (55+ years)	11,67	8,74
Total Number	100,00 (400.920)	100,00 (361.071)

During the period of 2009 - 2013 seen the tendency of increasing TPAK on age group 15 - 19 years. In the next year participation of labor forces this age group expected to decline. Increasing the means of education and the existence of the 9-year compulsory education program is the main factor that will cause the revelation of the participation of young age group.

TPAK according to age groups generally shows pattern letters U upside down (see Table 3). In general TPAK increased in line with age, where in 2013 peak achieved in the older age group 50 - 54 years and then declined. The pattern of such a development is almost the same with the characteristics of TPAK in other countries (see Sofyardi, 1997).

4.2. The Development of The Labor Supply According to Gender

Table 4 shows that during the period of 2009 - 2013, overall labor force in the City of Padang rise by 0.55 percent per year. The growth of the labor force are larger when compared with the 4.2. growth rate of working-age population. During the same period, the growth rate of working-age population a decline of 0.09 percent per year.

As shown in table 4, during the last five years, the labor force male rise by 6.924 people with the average growth rate per year around 0.75 percent. Meanwhile, the labor force of women increased as much as 909 people, with a growth rate lower than the labor force male reached 0.18 percent per year. The high increase in the labor force male is due to the increasing number of men who complete the higher primary education. This clearly will be many of them into the labor force.

In addition influenced by the number and the structure of the working-age population, labor force was also influenced by the behavior of the level of labor force participation (TPAK). From the Table 5 shows that the overall rise in TPAK 1.44 percent during the last five years. The level of increase in the male TPAK greater when compared with TPAK women. In the 2009-2013 period TPAK male experiencing an increase of 1.23 percent, while TPAK women increased by 0.21 percent. High TPAK male mainly due in general men is the main wage earner that requires them to work.

Table 3. The Number and the Rate of Population Growth, Working-Age Population and the Labor Force in the City of Padang, 2009 and 2013.

The variables	2009	2013	The Growth Rate 2009 - 2013 (%)
The inhabitants of: ¹⁾			
Male	432.515	437.162	0.27
Women	443.235	439.516	- 0.21
Men + Women	875.750	876.678	0.03
Working-Age Population: ²⁾			
Male	319.809	309.116	- 0.85
Women	630.917	319.615	0.68
Men + Women		628.731	- 0.09
Labor force: ³⁾			
Male	227.083	234.007	0.75
Women	126.155	127.064	0.18
Men + Women	353.238	361.071	0.55

TPAK males increased with rising age, where the peak achieved in the older age group 50 - 54 year on year 2009, then moved to the younger age is the age of 30 - 34 years in 2013. After that age, TPAK tend to decline. At the age of 30 to 50 years in general TPAK male approaching fifty percent (see picture 1 and 2). This is very reasonable because of the responsibility of man as Household requires that they work. TPAK pattern men generally relatify same in all countries (Widarti, 1986).

4.3. Labor Supply Forecast According to Gender

Table of 10 shows that the number of the work force in the City of Padang on 2018 is 396.850 people, increase from 365.758 people in the year 2014. Thus during the period of 2014 - 2018 estimated there is growing work force of 31.092 people or rise on average of 2.06 percent per year. Furthermore it can be seen that the male labor force in the year 2014 totaled 236.874 people and labor force of women is 128.884 people. While in 2018 work force men and women are expected to reach 253.704 and 143.146 people respectively. Therefore during the period of 2014 - 2018 there is growing labor force men of 16.830 people or

Table 4. Estimated Labor force according to age groups and types of Gender in the City of Padang, Year 2014 - 2018 (People).

Gender/ Age Group	The Year				
	2014	2015	2016	2017	2018
Male					
15-19	13.519	13.402	13.272	13.129	12.973
20-24	28.005	27.117	26.242	25.378	24.524
25-29	27.898	27.209	26.522	25.836	25.150

30-34	42.924	45.237	47.666	50.217	52.898
35-39	22,711	21.544	20.420	19.335	18.287
40-44	32.808	34.967	37.260	39.697	42.288
45-49	20.865	19.989	19.132	18.294	17.473
50-54	22.912	23.268	23.618	23.960	24.296
55-59	11.761	12.396	13.056	13.743	14.459
60+	13.471	15.117	16.962	19.036	21.357
The number of	236.874	240.246	244.152	248.627	253.704
Female :					
15-19	10.980	11.688	12.479	13.361	14.338
20-24	20.639	21.320	22.065	22.878	23.763
25-29	22.810	23.016	23.266	23.566	23.917
30-34	11.003	10.171	9.453	8.848	8.354
35-39	13.932	14.462	15.052	15.708	16.433
40-44	13.291	12.972	12.708	12.501	12.355
45-49	14.050	14.193	14.379	14.615	14.902
50-54	13.510	14.542	15.691	16.964	18.371
55-59	5.933	6.286	6.698	7.175	7.720
60+	2.736	2.724	2.766	2.853	2.994
Total	128.884	131.373	134.557	138.468	143.146
Male + Female					
15-19	24.499	25.090	25.752	26.490	27.310
20-24	48.644	48.437	48.307	48.256	48.286
25-29	50.708	50.224	49.788	49.401	49.067
30-34	53.927	55.408	57.119	59.066	61.252
35-39	36.643	36.006	35.473	35.043	34.719
40-44	46.099	47.939	49.968	52.198	54.642
45-49	34.916	34.181	33.512	32.909	32.374
50-54	36.422	37.810	39.308	40.924	42.667
55-59	17.694	18.681	19.754	20.918	22.180
60+	16.207	17.842	19.728	21.889	24.351
Total	365.758	371.619	378.709	387.095	396.850

4.4. Labor Supply Forecast According to The Level of Education

Table of 11 presents the results of the labor force projections according to the level of education and gender during the period of 2014 - 2018. In general can be seen that the number of educated work force have not completed elementary school tends to decline, while the number of Senior High School educated labor force to the top unless the Graduate Diploma, increased. This provides an indication that the level of education of the labor force in the City of Padang will have improved in the future.

From the data on the table 11 can also known that although the level of education of labor increase, but until the year 2018 the number of the labor force of men still dominate the higher educated groups (elementary school over). This difference is expected to be progressively down in the future, because of increasing awareness of the importance of education.

Table 5. Estimated Labor force according to the level of education and type of Gender in the City of Padang, Year 2014 - 2018 (People).

Gender/Level Education	The Year				
	2014	2015	2016	2017	2018
Male					
1. Tdk/unopened item never					621

schools	480	512	546	582	
2. Tdk/unopened item completed SD	14.652	13.999	13.374	12,778.71	12.208
3. SD/Ibtidaiyah	31.355	33.421	35.623	37.971	40.473
4. SLTP	40.482	38.822	37.231	35.704	34.240
5. Senior High School	66.488	66.494	66.501	66.508	66.514
6. SMK	42.221	42.989	43.771	44.568	45.379
7. Diploma program I/II/III	10.839	10.715	10.593	10.473	10.353
8. The University	30.358	33.293	36.513	40.044	43.916
The number of	236.874	240.246	244.152	248.627	253.704
Female :					
1. Tdk/unopened item never schools	127	115	104	95	86
2. Tdk/unopened item completed SD	8.938	8.529	8.138	7.765	7.410
3. SD/Ibtidaiyah	7.098	6.572	6.085	5.634	5.217
4. SLTP	12.516	11.272	10.151	9.142	8.233
5. Senior High School	45.449	50.116	55.263	60.939	67.197
6. SMK	19.748	19.800	19.851	19.903	19.954
7. Diploma program I/II/III	12.255	11.729	11.226	10.744	10.283
8. The University	22.754	23.241	23.738	24.246	24.765
The number of	128.884	131.373	134.557	138.468	143.146
Male+Female					
1. Tdk/unopened item never schools	607	627	650	677	706
2. Tdk/unopened item completed SD	23.590	22.527	21.512	20.543	19.617
3. SD/Ibtidaiyah	38.452	39.993	41.708	43.605	45.690
4. SLTP	52.998	50.094	47.382	44.846	42.474
5. Senior High School	111.937	116.611	121.764	127.447	133.712
6. SMK	61.969	62.789	63.623	64.471	65.334
7. Diploma program I/II/III	23.094	22.444	21.819	21.217	20.636
8. The University	53.111	56.534	60.251	64.290	68.681
The number of	365.758	371.619	378.709	387.095	396.850

5. CONCLUSION:

During the period of 2009 - 2013, the supply of labor in the City of Padang rise by 7.833 people, or rise an average of around 0.55 percent per year. Employment in the productive age (25 - 54 years) greater than with the young age group (15 - 24 years) and old age group (55 + years), both in the village and in the city. The male labor force increased faster than the work force women. During the period of 2009 - 2013 labor force men to rise by 6.924 people or up around 0.75 percent per year. While the labor force women to rise by 909 people, with a growth rate of 0.18 percent per year. In terms of education seen that the quality of the work force in the City of Padang increased. During the period of 2012- 2013 has been decrease proportion of the labor force that never schools, have not completed elementary school and completed elementary school significant. Overall in 2012 proportion of the labor force that never schools, have not completed elementary school and completed elementary school is 17,97 percent, fell to around 17,10 percent in 2013. But the proportion of the labor force is highly educated (D-III to the above) is still low. Until 2013, the proportion of the labor force completed D-III to the top is still less than 7 percent.

REFERENCES:

1. The Central Bureau of Statistic (2009), National labor force Survey the City of Padang, Central Statistics Agency, Padang.
----- (2009), the Field in Numbers, Central Bureau of Statistics, Padang.
----- (2010), National labor force Survey the City of Padang, Central Bureau of Statistics, Padang.
----- (2010), the Field in Numbers, Central Bureau of Statistics, Padang.
----- (2011), National labor force Survey the City of Padang, Central Bureau of Statistics, Padang.
----- (2011), the Field in Numbers, Central Bureau of Statistics, Padang.
----- (2012), National labor force Survey the City of Padang, Central Bureau of Statistics, Padang.
----- (2012), the Field in Numbers, Central Bureau of Statistics, Padang.
----- (2013), National labor force Survey the City of Padang, Central Bureau of Statistics, Padang.
----- (2013), the Field in Numbers, Central Bureau of Statistics, Padang.
2. Pollard, A. H., and friends (1975), Demographic Techniques, Pergamon Press, Australia.
3. Sofyardi (1997), the Development of the Labor Supply of West Sumatera and Expected to Meet the Repelita VII, Andalas Research Journal, No. 25/September/year IX: 51 - 73.
4. Todaro, M. and T. Shikind (1981), City Bias and Rural Neglect The dilemmas of Urban Development, The Population Council in New York.
5. The United Nations (1971), Manual V. Methods of Projecting the population, population Population Studies, No. 46 United Nations in New York.
6. Widarti, Diah (1986), The Labor Force in Indonesia: The Result Has been the Inhabitants of 1980, in Kartomo, Wirosuhardio (Ed.), The Wisdom of Population and Employment in Indonesia, Publisher Institutions Economics Faculty of the University of Indonesia, Jakarta.