

## DEPENDENCE RATIO ANALYSIS OF CITIES IN SOUTH SUMATRA RESULTS OF BPS SURVEY AND CENSUS FOR 2005-2020

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**ABSTRACT:** This study aims to analyze the dependency ratio (Dependency Ratio) of cities in the province of South Sumatra in 2005 -2020. The analysis was carried out using secondary data from BPS surveys and censuses based on data from cities in South Sumatra Province and based on times series every five years in the last two decades. The research method used is a qualitative descriptive analysis method based on library research. The research subjects in this study were the population, both young people (0-14 years), productive age people (15-64 years) and old people (65+ years or more). As for the results obtained from the analysis, it can be concluded that the cities in South Sumatra Province, the age structure of the population is in the transition stage from a young population to an old population. The dependency ratio of cities in South Sumatra Province has continuously decreased since 2005-2020 until now it has entered the category of low dependency ratio.

**Keywords:** *Dependency Ratio, Productive Age, Non-productive Age, Cities*

### 1. INTRODUCTION

South Sumatra is province the largest on the island of Sumatra, with wide a total of 91,592.43 km<sup>2</sup>, consisting from 13 districts and 4 cities. Province South Sumatra is located between 102<sup>0</sup> - 106<sup>0</sup> East Longitude and 1<sup>0</sup> -4<sup>0</sup> South Latitude. Next door north, province this connected with Lampung Province, next door east with Jambi Province, and in the north with Province Bangka Belitung Islands. Palembang works as Mother city Province.

Resident area this in 1980 was as much as 4.63 million soul then rose to 8,550 million soul in 2021, and has increase around four million people during ( Statistics Residents of South Sumatra, 2022). Increase total this too of course influential to structure residents, in particular structure age resident, as consequence from exists dynamics population (Gatiningsih, 2017).

Based on structure age could counted ratio a dependency *ratio* area, whether including in dependency old or dependency young. Ratio – Dependency (*dependency ratio*) is the numbers show ratio Among many residents who don't productive with resident no productive. Resident no positive is resident ages 0-14 years or also known as resident age young. Whereas resident age old is aged residents six twenty five years to top.

Resident in category not yet productive age 0-14 years in a manner economy still depend

on parents and yet work, so do the people in non productive category ie aged over 65 years considered already no capable again working and already no productive again as well as already past retirement. On the contrary age from 15 years – 64 years is age productive for work and considered has have potential.

Height *dependency ratio* could Becomes factor inhibitor development in developing countries including in Indonesia, because part from income earned from class productive, forced must issued for Fulfill need groups that have not and have no productive, if with dependent small population so will more easy mobilize community funds and budgets government for more investment productive. On ratio dependency low population saving process takes place ingredient food and ingredients raw other at a time occur qualitative life residents, p this next will Upgrade number hope life (life expentancy) in the region (Andi Nurul Adiana Risk Agus, 2016).

Dependency Ratio could used as an indicator that Rough show is something area the including to in advanced economy. The more height percentage *dependency ratio* show the more height must burden borne resident productive. On the contrary percentage *dependency ratio* low show the more low burden borne productive population. Study this aim for describes the load ratio dependency (*Dependency Ratio*) in

cities in South Sumatra for a five - year period from 2005-2020 results BPS survey and census.

## 2. RESEARCH AND METHODS

Study this is study quantitative Secondary Data Analysis (ADS). Martono (2011) states , ADS or called also *secondary data analysis* has almost character \_ same with analysis contents . ADS is research that utilizes existing data something is sourced from various service agency certain . Data used in study this is population data results survey 2005 and 2015, and population data results census 2010 and 2020 are related with structured data age . Structure data age analyzed into the form number dependency residents , incl number total dependency , numbers dependency youth and numbers dependency old for every five year period dive 2005-2020. With formula as following :

$$\text{Total Dependency Ratio} = \frac{P_{0-14 Th} + P_{>65 Th}}{P_{15-64 Th}} \times 100$$

$$\text{Young Dependency Ratio} = \frac{P_{0-14 Th}}{P_{15-64 Th}} \times 100$$

$$\text{Old Dependency Ratio} = \frac{P_{>65 Th}}{P_{15-64 Th}} \times 100$$

Description :

$F_{0-14 \text{ years}}$  = Population Age 0-14 years

$F_{15-64 \text{ years}}$  = Residents Age 15-64 years

$F_{>65 \text{ years}}$  = Population Age 65 years to on

## 3. RESULTS AND DISCUSSION

### 3.1 Dependency Rate in South Sumatra Province 2005-2020

Dependence rate population of South Sumatra for a five- year period During 2005-2020 can seen in figure 1. The dependency rate five year period During period 2005-2020 was 55.65 percent in 2005 , then rose to 57.5 percent in 2010 , then two five year period next down to 50.1 percent in 2015 and fell again to 47.9 percent in 2020. Thus case trend number dependency young nor number dependency old five year period During 2005-2020 year shows same pattern with number complete dependency . In a five year period first experience upgrade and then two five year period the next experience decline.

Based on results projection resident show that there are 2.26 million young people Among aged 0-14 years in 2021 (BPS , Sumsel In Figures 2022). Load figure dependency five year period in South Sumatra still show a relatively large number , though two five year period lately show decline . It means age dependent or non - productive age still relatively still big . Non- productive age this will Becomes burden if no get attention seriously.

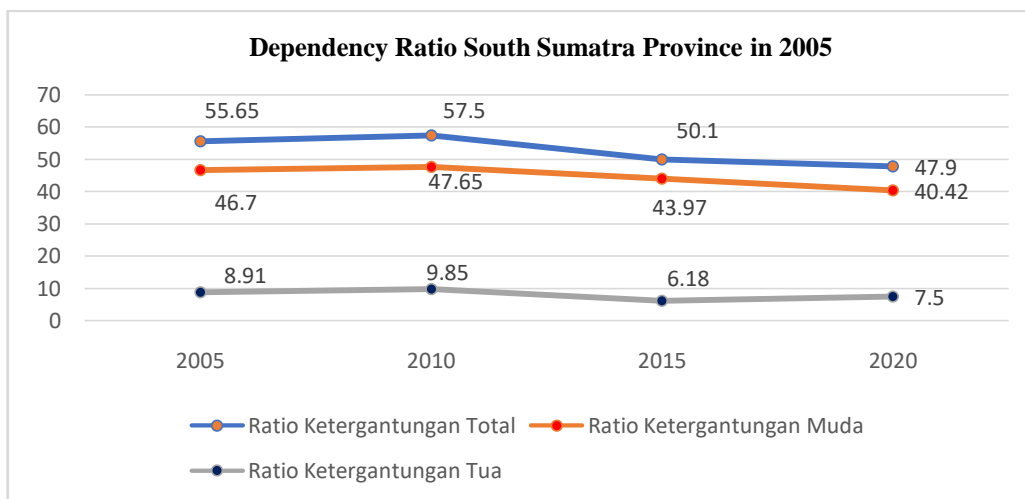


Figure 1. Dependency Ratio South Sumatra Province ( percent ) in 2005-2020

Source: Results of data analysis, 2022.

Next from Figure 1 can seen , load dependency population in 2005 was 55.65 percent, divided over biggest originate from number dependency young people 46.7 percent , and figures dependency old is 8.91%. In 2010 load dependency rose to 57.5 % with young dependency ratio 47.65% and the old dependency ratio rose to 9.85% of period year before . Then in 2015 the dependency ratio fell to 50.1 % , with divided over young dependency ratio of 43.97%

and dependency ratio old 6.18%. In 2020 , the total dependency ratio will also experience decline to

47.9% of period year previously with divided over from young dependency ratio of 40.42% and old dependency ratio of 7.5%.

Based on it results numerical data analysis dependency resident South Sumatra Province in 2005-2020 for a five year period experience increase in 2010 and beyond until 2020 continues \_ experience decline.

Structure data age resident During 2005-2020 five year period show that the average force more work \_ young amount more of 40 percent and more of the population the average old is as much as 8 percent . From 2005 to 2020 , improvement in health status society is also estimated as one variable that will resulted

enhancement total elderly . There are 4 cities in South Sumatra \_ namely Fence City Pagar Alam, City Lubuk Linggau , Prabumulih City, and Palembang City. The following is a map of research locations for cities in South Sumatra.

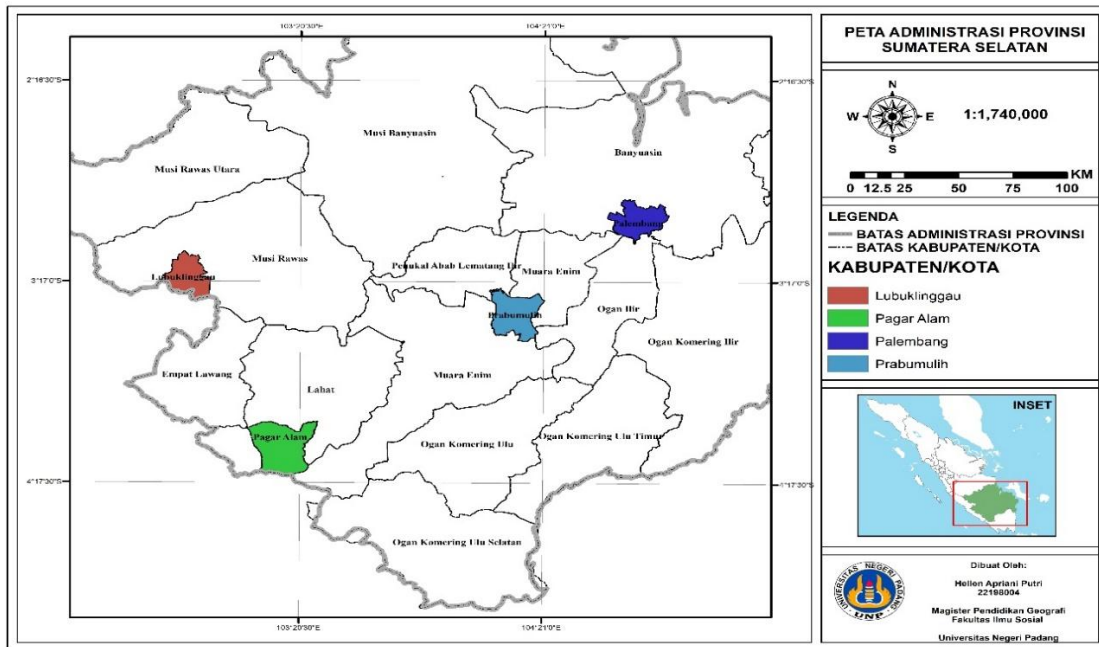


Figure 2. Map of Research Locations

### 3.2 Dependency Ratio on the cities in the province of South Sumatra

Dependency Ratio the population in the Cities of South Sumatra Province is sufficient diverse

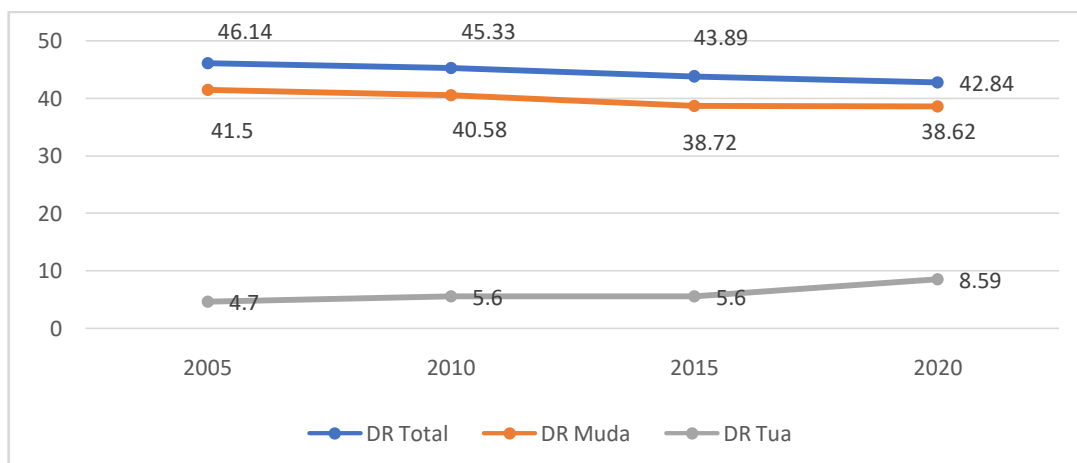
based on findings analysis . Every five years . start 2005 , 2010 , 2015 and 2020, based on BPS survey and census data for cities in South Sumatra. The following ratio data burden dependency cities in South Sumatra Province.

Table 1. Dependency Ratio of Cities in South Sumatra Province 2005 - 2020

No.	Regency /City	Year			
		2005	2010	2015	2020
1.	Palembang city	46,14	45,33	43,89	42,82
2.	Pagar Alam City	49,8	50,56	48,75	47,65
3.	Lubuk Linggau City	65,93	50,24	48,78	48,23
4.	Prabumulih City	56,26	51,52	49,82	48,73

Source : Research Results , 2022

#### 3.2.1 Palembang city



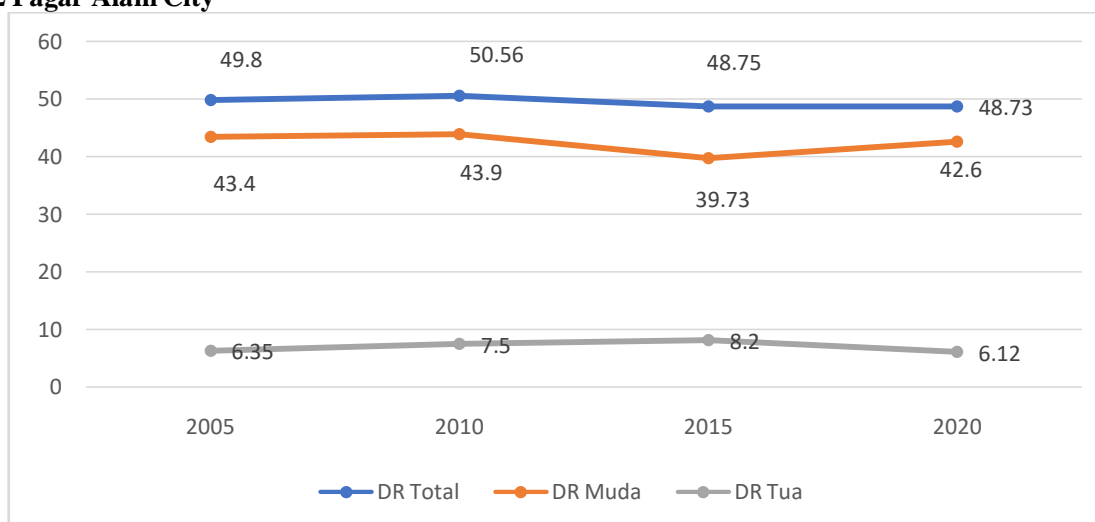
**Figure 3. Dependency Ratio Palembang City in 2005-2020**  
 ( Source : Processed Data , BPS 2005-2020)

Based on Figure 3. above, the calculation of the dependency ratio total in Palembang City in 2005 reached 46.14, while the dependency ratio youth 41.5 and dependency ratio old of 4.7. in year next 2010 dependency ratio (*dependency ratio*) total decreased to 45.33, while the dependency ratio young people also follow down to 40.58 percent and the dependency ratio old experience increase to 5.6 percent. Then 2015 dependency ratio total also experienced decline to 43.89, the dependency ratio young of 38.72, while the

dependency ratio old permanent same by 5.6, in between five year period in years before the dependency ratio lowest total in 2020 until reached 42.82, while the dependency ratio young of 38.62 and the dependency ratio old rose from year previously to 8.59 percent.

In dependency ratio total in Palembang City in 2005-2020 in a five year period always experience decline, this influential good for city. That is amount dependent age productive (15-64 years ) in the city the the more reduced.

### 3.2.2 Pagar Alam City

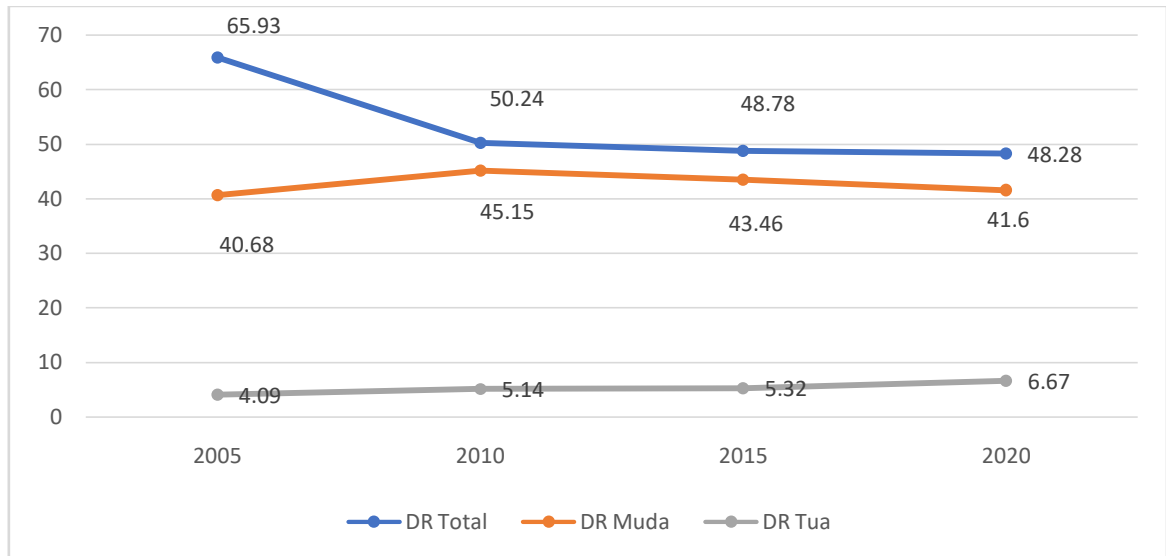


**Figure 4. Dependency Ratio of Pagar Alam City in 2005-2020**  
 ( Source : Processed Data , BPS 2005-2020)

Pagar Alam City since 2005-2020 dependency ratio in 2010 reached 50.56. meaning 100 productive people bear 51 people not productive . In 2005 the dependency ratio total more low compared to 2010 which was 49.8. Where is the total dependency ratio young of 43.4 and the dependency ratio young of 6.35. Then

2015 also experienced decline to 48.75, which is divided in the dependency ratio young of 39.73 and the dependency ratio old of 8.2. Year 2020 loads lowest dependency compared to year previously until reached 47.65 percent, which consisted of the dependency ratio youth 42.6 percent and dependency ratio old 6,12 percent.

### 3.2.3 Lubuk Linggau City

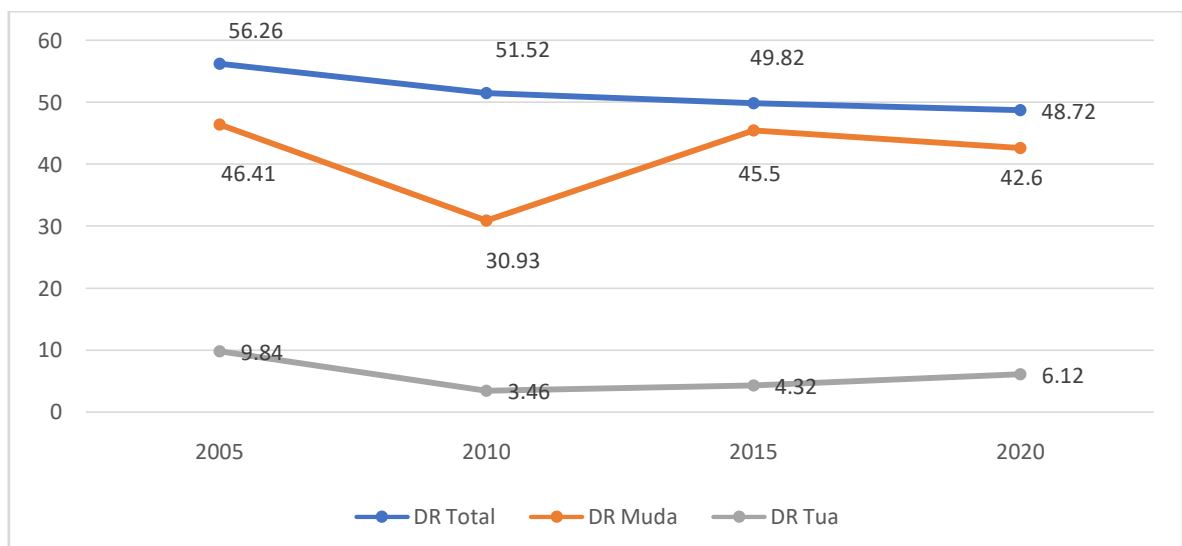


**Figure 5. Dependency Ratio Lubuk Linggau City in 2005-2020**  
 ( Source : Processed Data , BPS 2005-2020)

Dependency ratio of Lubuk Linggau City since 2005-2020 experience decline. The highest total dependency ratio in 2005 reached 65.93 percent, which was divided in the dependency ratio young of 40.68 and the dependency ratio old of 4.09. this categorized as enough tall because already reach more of 60 percent. In 2010 the dependency ratio total experienced decline, Becomes more low compared to 2005 , namely

50.24 percent, with a dependency ratio young of 45.15 and the dependency ratio old of 5.14. Then year 2015 dependency ratio also experienced decline to 48.78, with dependency ratio division young of 43.46, and the dependency ratio old of 5.32. Finally in 2020 the dependency ratio total experienced decrease too reached 48.28 percent , the dependency ratio young down to 41.6 and the dependency ratio old of 6.57.

### 3.2.4 Prabumulih City



**Figure 6. Dependency Ratio Prabumulih City in 2005-2020**  
 ( Source : Processed Data , BPS 2005-2020)

Since 2005-2020 dependency ratio of Prabumulih City experience decline. Dependency

Ratio total the highest in 2005 reached 56.26 percent , which was divided in the dependency

ratio young of 46.51 and the dependency ratio old 9.84.

In 2010 the dependency ratio total down to 51.52, a decline this significantly on the Dependency Ratio young, Becomes of 30.93 percent, and the dependency ratio old of 3.46. Next 2015 also experienced decline to 49.82 percent, but the dependency ratio young experience increase to 45.5 as well as the dependency ratio old to 4.32. In 2020 loads dependency experience decrease too reached 48.73 percent , as well as the dependency ratio young down to 42.6 percent and the dependency ratio old to 6.12.

#### 4. CONCLUSION

Based on management of secondary data for cities in South Sumatra Province in 2005-2020, ratio number dependency different . Every the five- year period is also different anyone experienced increase and many cities have experience decline .

Based on analysis cities in South Sumatra dependency ratio in 2005-2020, experienced decline are Palembang City, Prabumulih City, Lubuk Linggau City. In 2005 Lubuk City Linggau is City with ratio dependency highest reached 66. Next in 2010-2020 the Lubuk Linggau city already experience decline dependence ratio. Could concluded that the Cities of South Sumatra Province since 2005-2020 dependency ratio keep going decrease until 2020 already decreased and entered the category of dependency ratio level low.

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