



Analysis of Population Composition: Dynamics of Population Composition and Development of Pekanbaru City

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ABSTRACT. Pekanbaru City, the capital of Riau Province, faces the region's highest unemployment rate, posing a challenge to its development. Targeted policies are crucial, aligning with the unique characteristics of Pekanbaru City's population. Achieving development goals requires a nuanced understanding of population composition. This quantitative descriptive study investigates population data from 2016 to 2020 for Pekanbaru City, unveiling annual fluctuations in age-based composition and a consistently low dependency ratio. The findings indicate: (1) The age-based population composition underwent yearly fluctuations from 2016 to 2020; (2) The dependency ratio in Pekanbaru City between 2016 and 2020 exhibited dynamic trends, consistently remaining in the low category. This suggests that a significant proportion of Pekanbaru City's population falls within the productive age range. To optimize the potential of this demographic, recommended initiatives involve investing in training and skills development, along with facilitating enhanced access to financing for Micro, Small, and Medium Enterprises (MSMEs). These strategic measures aim to leverage the strength of Pekanbaru City's productive age population, fostering economic growth and development.

Kata kunci: Population Composition; Dependency Ratio ; Population ; Demography;

PENDAHULUAN

Indonesia, classified as a developing nation with a substantial population, holds the fourth position globally in terms of population size according to the World Population Prospect 2022. Beyond the challenge of sheer population quantity, Indonesia grapples with issues related to population quality. Unemployment emerges as a significant concern, stemming from multiple factors, including inadequate education levels, a scarcity of job opportunities, and a deficiency of specialized skills among job seekers (Nadia, 2023). High unemployment is a prevalent issue across several provinces in Indonesia, including Riau Province. The data below illustrates the unemployment rate in Riau Province over the past three years;

The data presented reveals that Pekanbaru City, located in Riau Province, contends with the highest unemployment rates: 47,521 people in 2020, 44,503 people in 2021, and 36,513 people in 2022. The elevated unemployment in Pekanbaru City is attributed to several factors, notably its status as the capital of Riau Province, which is perceived to offer more job opportunities compared to other regions within the province. Consequently, Pekanbaru City becomes a magnet for job seekers from various areas. Regrettably, some of these individuals lack the requisite skills, leading to their exclusion from the workforce. This dynamic significantly contributes to the persistently high unemployment rates in Pekanbaru City (Nadia, 2023).

Table 1 Unemployment Rate in Riau Province

Regency/City	Unemployment Number		
	2020	2021	2022
Kuantan Singingi	8 376	3 291	3 998
Indragiri Hulu	10 571	7 291	5 450
Indragiri Hilir	15 782	9 685	5 141
Pelalawan	14 223	5 915	6 721
Siak	12 292	9 745	14 338
Kampar	23 911	16 797	14 219
Rokan Hulu	13 958	7 537	12 164
Bengkalis	24 518	17 910	18 227
Rokan Hilir	13 205	9 851	15 073
Kepulauan Meranti	7 475	4 060	5 048
Pekanbaru	47 521	44 503	36 513
Dumai	12 005	9 084	7 997

Source: BPS Pekanbaru City in Figures 2022

Unemployment pertains to individuals actively seeking employment at a specific wage level but facing challenges in securing their desired jobs. The presence of unemployment poses a significant concern in the realms of the economy and development, as it can lead to a decline in people's productivity and income. The repercussions extend to the potential for increased poverty and the emergence of various other social problems (Sukirno, 2004).

A heightened unemployment rate poses a potential obstacle to the developmental progress of Pekanbaru City. Hence, targeted policies aligned with the unique conditions of the city's population are imperative. The attainment of development objectives hinges on a comprehensive understanding of population structure, encompassing the number, distribution, and composition of residents. This structure is dynamic, shaped by demographic processes like birth, death, and migration, necessitating a thorough analysis of population composition.

Population composition involves categorizing residents based on specific criteria such as age, gender, ethnicity, and occupation. According to Rusli (2012), population composition is the process of describing the population's makeup through groupings that share common characteristics. Implementing policies informed by this nuanced understanding of population structure and composition becomes integral to effectively addressing the challenge of high unemployment and fostering sustainable development in Pekanbaru City.

Understanding population composition is essential for decision-making and policy formulation in the context of development. Analyzing the description of population composition is crucial for several reasons. Variations in age and gender across populations imply diverse potentials and abilities, prompting the need for tailored government activities and plans that align with the capabilities of each demographic segment. The government can strategically plan and allocate resources for facilities and infrastructure in alignment with the social, national, and state life needs specific to its population.

A comprehensive grasp of population composition enables logical, well-considered, and meaningful decision-making in policy formulation and development implementation. This research is designed to achieve two primary objectives: (1) Provide a detailed analysis of population data according to age in Pekanbaru City from 2016 to 2020; (2) Examine the impact of age-based population composition analysis, particularly the dependency ratio, on the development trajectory of Pekanbaru City. Through this exploration, the aim is to contribute valuable insights that can inform informed decision-making and policy determination in the city's development initiatives.

METODE

This research employs a quantitative descriptive approach, relying on secondary data as the primary source of information. The focal point of the study is the population composition data according to age in Pekanbaru City spanning the years 2016 to 2020.

The data collection method employed is the documentation method, centering on records of population composition according to age in Pekanbaru City over the specified period (2016-2020). The research involves the calculation of secondary data, and the findings are presented based on these calculations. The analysis method utilized is as follows:

Population composition by age:

- a. Percentage
- b. Dependency ratio

Rumus:

$$\text{Dependency ratio} = \frac{\text{Population aged 0 – 14 years} + \text{65 years and above}}{\text{Population aged 15 – 64 years}} \times 100\%$$

RESULTS AND DISCUSSION

Population composition refers to the arrangement of individuals in a specific area, structured according to groupings based on particular characteristics (Rusli, 2012) . Typically, population composition is assessed through various factors including age, education level, gender, occupation, ethnicity, or religion. For instance, evaluating population composition by age involves determining the percentage of individuals within specific age brackets, such as the unproductive age group, productive age group, and non-productive age group.

The demographic makeup of Pekanbaru City fluctuates annually based on age from 2016 to 2020. Analyzing the processed population data for Pekanbaru City during this period reveals a prevailing dominance of individuals in the productive age category. Further details are outlined in the following table:

Table 2 Population Composition by Productive Age 2016-2020

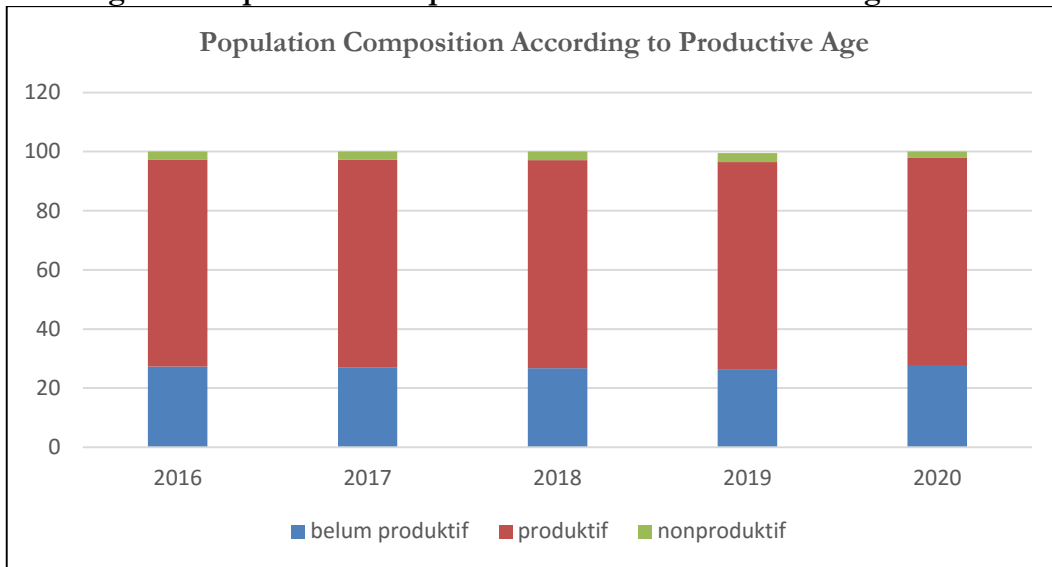
Year	Dependent age	Productive age	Non-productive age
2016	27,29%	70,06%	2,65%
2017	27,03%	70,21%	2,76%
2018	26,78%	70,34%	2,88%
2019	26,37%	70,09%	3,01%
2020	27,51%	70,37%	2,12%

Source: Secondary data processing 2023

Table 2 illustrates the population composition of Pekanbaru City from 2016 to 2020. In 2016, 27.29% of the population fell into the non-productive age group, while 70.06% belonged to the productive age category, and 2.65% were no longer productive. The trend continued in 2017, with 27.03% in the non-productive age group, 70.21% in the productive age group, and 2.76% in the no longer productive category. In 2018, these percentages were 26.78%, 70.34%, and 2.88%, respectively. The pattern persisted in 2019 (26.37%, 70.09%, 3.01%) and 2020 (27.51%, 70.37%, 2.12%). The calculations affirm that in Pekanbaru City, the population of productive age consistently surpasses the population of non-productive age. This demographic insight is visually represented in the following graph:



Figure 1. Population Composition Based On Productive Age in 2016-2020



Population composition by age is a widely employed category in demography, serving as a foundational element for addressing numerous population-related challenges. Nearly all demographic analyses, including estimations of birth rates, deaths, and dependency ratios, rely on the analysis of population composition by age as a fundamental component (Rusli, 2012).

Data on population composition by age not only offers insights into the age distribution of a region but also serves as a valuable tool for planning social, economic, or health policies. Population composition is subject to variation across regions and may undergo changes over time. Hence, accurate and up-to-date data is crucial for a comprehensive analysis of population composition.

The calculation of population composition data by age becomes instrumental in determining the dependency ratio of an area. As stated by Yani (2017), the dependency ratio is a metric that elucidates the proportion between the non-productive age population (children and the elderly) and the productive age population (working age). This ratio highlights the substantial burden of dependency carried by the productive age group, as they support those unable to independently meet their living needs. Utilizing the population composition data based on the productive age segment, the dependency ratio for Pekanbaru City can be calculated, as illustrated in the ensuing table:

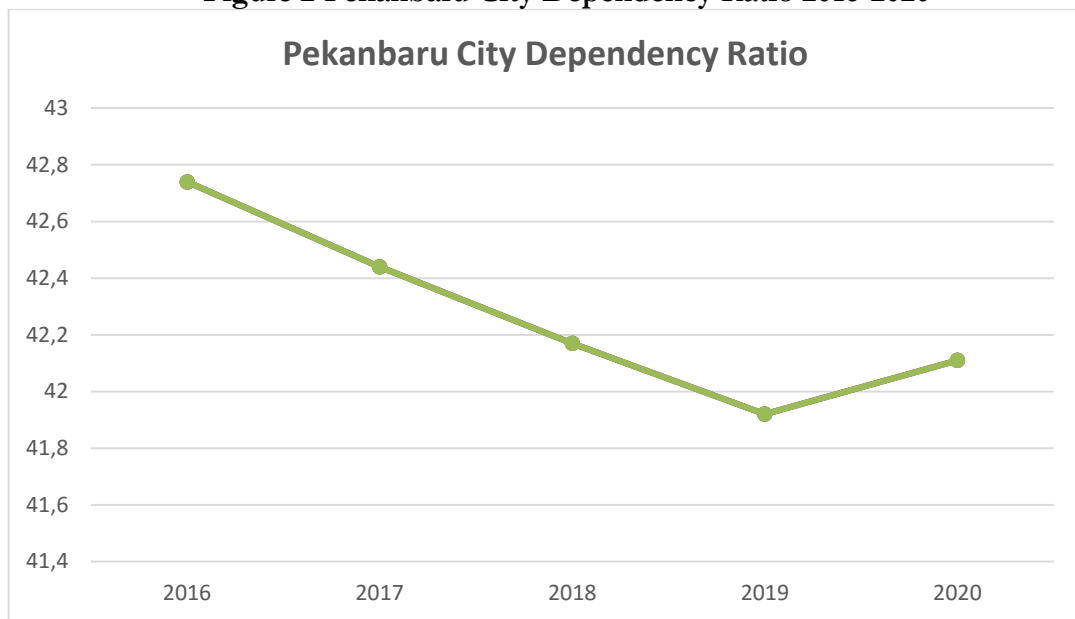
Table 3 Pekanbaru City Dependency Ratio 2016-2020

Year	Populations (person)						Dependency Ratio	Category
	0-14	%	15-64	%	>65	%		
2016	290.561	27,29	745.827	70,06	28.178	2,65	42,74	Low
2017	294.961	27,03	766.025	70,21	30.102	2,76	42,44	Low
2018	299.195	26,78	785.938	70,34	32.226	2,88	42,17	Low
2019	303.109	26,37	805.642	70,09	34.608	3,01	41,92	Low
2020	266.060	27,51	680.441	70,37	20.477	2,12	42,11	Low

Source: Secondary data processing 2023

From Table 3, it is evident that Pekanbaru City's dependency ratio in 2016 was 42.74%, categorized as low. This implies that for every 100 individuals of productive age, there is a responsibility to support 42 people of non-productive age. The trend continued in 2017 with a dependency ratio of 42.44%, still in the low category. In 2018, the dependency ratio for Pekanbaru City was 42.17%, also classified as low. The subsequent years followed a similar pattern, with the dependency ratio in 2019 at 41.92% and in 2020 increasing slightly to 42.11%, both falling within the low category. The population dependency ratio for Pekanbaru City from 2016 to 2020 is visually represented in the graph below:

Figure 2 Pekanbaru City Dependency Ratio 2016-2020



Source: Secondary data processing 2023

The graph illustrates a decreasing trend in Pekanbaru City's population dependency ratio from 2016 to 2019, consistently remaining in the low category. This aligns with Osman's assertion (2014) , which categorizes a dependency ratio below 50% as small. However, in 2020, there is a slight increase in Pekanbaru City's population dependency ratio, reaching 42.11%, but it still falls within the low category.

A low dependency ratio, where the percentage of unproductive individuals (children and the elderly) is less than 50% of the productive age group, indicates that the working-age population exceeds those not actively contributing. Populations with a low dependency ratio often exhibit a younger age structure, presenting an opportunity for substantial contributions to economic growth—a phenomenon known as the demographic bonus.

The demographic bonus arises when there is a large population of individuals in the productive age range (15-64 years), a decreasing proportion of the young population, and a relatively moderate proportion of the elderly (Falikhah, 2017) . This demographic advantage provides a country with a significant pool of human resources for labor.

Realizing the potential of the demographic bonus requires strategic considerations. Sugiarto emphasizes that optimal benefits are achievable if the government ensures job opportunities, protection for existing workers, opens new job opportunities, facilitates continued employment with high productivity, and prepares the emerging workforce with high competence aligned with labor market demands (Ristekdikti.html) . Effective utilization of the demographic bonus involves addressing these key areas.

Development relies on a productive workforce to drive increased production and infrastructure. However, it's crucial to emphasize that successful development also requires ensuring that the workforce receives adequate education and training to enhance productivity.

To unleash the full potential of the productive age population, a key initiative involves training and skills development programs. Collaborative efforts between the government, private sector, and educational institutions are essential to designing programs aligned with labor market needs, encompassing skills such as information technology, entrepreneurship, and other industrial competencies. Elevating qualifications and competencies enables the working-age population to become more adaptable to changes in technology and job market demands.

The subsequent strategic move for the government involves enhancing access to financing, particularly for small and medium enterprises (MSMEs). Streamlining access to financing yields numerous benefits for MSMEs, facilitating their development and expansion. Increased accessibility to capital enables MSMEs to augment production, diversify products, or open new branches, enhancing competitiveness in both local and global markets. Supported by adequate financing, MSMEs can seize business opportunities and navigate economic challenges more effectively.

The development of MSMEs carries the potential to generate new jobs, with MSMEs standing out as major contributors to job creation. In alignment with Noorman's perspective in 2018, which emphasizes the role of MSMEs in equalizing income distribution and boosting overall economic growth, these enterprises also contribute significantly to achieving national stability. Improved access to financing enables MSMEs to grow, employ more workers, and actively contribute to reducing unemployment rates.

Enhancing access to financing for MSMEs stands as a crucial step in fostering inclusive and sustainable economic growth. With the right support, MSMEs can evolve into robust economic drivers, creating jobs, and enhancing the overall welfare of society.

CONCLUSION

The age composition of Pekanbaru City's population experienced annual fluctuations from 2016 to 2020. Analysis of population data during this period reveals a predominant presence of individuals in the productive age group.

Derived from the population data specific to the productive age bracket, the dependency ratio for Pekanbaru City can be computed. The results consistently indicate a low dependency ratio, averaging at 42.28%. This signifies that, on average, every 100 individuals of productive age support a burden of 42 individuals in the non-productive age group.

Populations with a low dependency ratio typically exhibit a younger age structure, presenting a favorable potential for increased contributions to economic growth. To capitalize on the potential of the productive age population, strategic initiatives such as training and skills development can be implemented. Additionally, the government can play a role in enhancing economic prospects by facilitating increased access to financing for Micro, Small, and Medium Enterprises (MSMEs).

RECOMMENDATION

To unlock the full potential of the productive age population, a crucial initiative involves investing in training and skills development. Implementing robust programs in these areas has the potential to significantly enhance the capabilities and expertise of the workforce.

The subsequent measure that the government can pursue is enhancing access to financing for Micro, Small, and Medium Enterprises (MSMEs). Facilitating easier access to financing enables MSMEs to foster the development and expansion of their businesses. Improved financial

accessibility empowers MSMEs to grow, create more job opportunities, and thereby contribute to the reduction of unemployment rates.

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