Research Article

Economic Competitiveness and Quality of Human Resources in West Sumatra

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Abstract. Economic development is essentially an effort to improve people’s welfare through increasing and promoting equitable distribution of people’s income. The logical consequence of regional development in the current era of globalization is an increasingly sharp level of direct competition in the marketing of goods and services, both in the domestic market and the international market, for all regions in the national territory. The purpose of this study was, first, to analyze the characteristics and level of competitiveness of the regional economy and human resources in districts and cities in West Sumatra. Secondly, we aimed to investigate the relationships between regional economic performance, human resources and typology between regions in West Sumatra. This research used descriptive qualitative and quantitative methods and analyses. To determine the pattern and structure of regional economic growth, the Klassen typology was used. Then to examine the overall ranking of regional economic competitiveness, the average and standard deviation of the main indicator were calculated. The results indicated that the highest economic performance and quality of human resources were in the city of Padang, followed by Bukittinggi, Padang Panjang, Payakumbuh, and Solok. The lowest competitiveness was dominated by regencies such as Solok Selayan, Pesisir Selatan, and the Mentawai Islands. This was also supported by the findings of Klassen’s typology.

Keywords: competitiveness, region, Klassen typology, performance

1. INTRODUCTION

Regional development with the aim of achieving community welfare must be carried out in a sustainable manner [1]. The level of competitiveness is one of the parameters in the concept of a sustainable area. The higher the level of competitiveness of a region, the higher the level of community welfare. The position of Indonesia’s global competitiveness that continues to decline is a big challenge for Indonesia in the future to rise and be able to play a strategic role in the international economic arena. The
problem is, at the domestic level, there is still a large gap in competitiveness and innovation between regions (regencies/cities) with one another. For this reason, strategic steps are needed to encourage productivity, bureaucratic reform, and strengthening innovation that originates from the region. Indonesia faces various challenges and major obstacles in the current era of information and globalization. Various indicators show that Indonesia’s competitiveness is still lagging behind other countries in the world economic arena that has led to the information age and globalization. According to the 2019 Global Competitiveness Index (GCI) Report released by the World Economic Forum (WEF), Indonesia is ranked 45th in 2018 [2]. This ranking is below Singapore, Malaysia and Thailand, as illustrated in table 1 below:

Furthermore, the economic competitiveness of a region is an interesting topic to observe because globalization has resulted in increased competition for factors of production and is no longer limited by geographical boundaries [3]. West Sumatra Province as a part of Indonesia follows the prevailing regional competitiveness trend. The competitiveness ranking of the West Sumatra region in 2015 was not among the top 10 competitiveness rankings for the Indonesian region covering 34 provinces issued by the Monitoring Committee for the Implementation of Regional Autonomy [4]. The top 10 provinces with regional competitiveness are DKI Jakarta, East Java, West Java, East Kalimantan, Riau Islands, Central Java, Banten, Bali, Riau Islands, and North Sumatra. This fact is very concerning considering that West Sumatra has the potential of diverse natural resources and a strategic geographical location.

Table 1: Indonesia’s Rank in Global Competitiveness Index (GCI)

| No. | Negara               | The World’s Rank |
|-----|----------------------|------------------|
|     |                      | 2012 (144 countries) | 2013 (148 countries) | 2014 (144 countries) | 2018 (140 countries) |
| 1   | Singapore            | 2                | 2                | 2                | 2                |
| 2   | Malaysia             | 25               | 24               | 20               | 25               |
| 3   | Brunei Darussalam    | 28               | 26               | no assessment    | 62               |
| 4   | Thailand             | 38               | 37               | 31               | 38               |
| 5   | Indonesia            | 50               | 38               | 34               | 45               |
| 6   | Vietnam              | 75               | 70               | 68               | 77               |

Source: Directorate General of Strengthening Innovation-Ministry of Research, Technology and Higher Education, 2019.
### Table 2: Indicator Determinant Intensity Classification

| Intensity Classification | Positive Indicator | Negative Indicator |
|--------------------------|--------------------|-------------------|
| High                     | $1 \geq \overline{x} + SD$ | $1 \geq \overline{x} - SD$ |
| Middle                   | $\overline{x} \leq 1 < \overline{x} + SD$ | $\overline{x} - SD \leq 1 < \overline{x}$ |
| Low                      | $\overline{x} - SD \leq 1 < \overline{x}$ | $\overline{x} < 1 \leq \overline{x} - SD$ |
| Very Low                 | $1 < \overline{x} - SD$ | $1 < \overline{x} + SD$ |
| Standard Size            | $SD = \sqrt{\frac{\sum_{n=1}^{n} (x_i - \overline{x})^2}{n-1}}$ |

#### 2. METHODOLOGY

The scope of the research covers 19 districts/cities in West Sumatra Province. The selection of West Sumatra Province as the research area on the grounds that the regional economic competitiveness in this province is still relatively low. The data source in this study used secondary data with the observation year 2015-2020 with variables including regional economic performance, regional finance, and human resources. In analyzing the regional economic competitiveness in the Province of West Sumatra, both qualitative and quantitative descriptive analysis tools are used. Qualitative analysis using average, growth and ratio as shown in Table 2. Based on the classification reference of [1], [5].

Meanwhile, to find out the characteristics of the pattern and structure of regional economic growth, the Klassen typology can be used. Then, to see the ranking of regional economic competitiveness in West Sumatra Province overall it will be done by calculating the average ranking of the main indicators, in order to see the distribution of variables, the standard deviation of each region from the indicator ranking results is also used.

#### 3. RESULTS AND DISCUSSIONS

##### 3.1. Economic Performance indicators

The performance of regional economic indicators in West Sumatra can be seen from the indicators of GDRP, GDRP/Cap. and Economic growth. Figure 1 shows the GDRP of West Sumatra and table 1 enhances the data. The most superior performance is the City of Padang, especially for Gross Domestic Regional Product (GDRP). However, because of the large population in this area, it can be seen that the City of Padang is in the 3rd position for GDRP/Cap and so does economic growth. Seven cities in West Sumatra have the best performance. For districts, the best performing is Limapuluh Kota.
Regency, which can even rank fifth higher than the cities of Pariaman, Solok, and Sawahlunto, and is the district with the best performance among all districts in West Sumatra. This table also shows a unique result, where the City of Padang Panjang is ranked 19 in the GDRP but the best in the GDRP/cap, this is because the City of Padang Panjang has a relatively small population, so if it is divided by a small population it will get good results. Contrary to the city of Padang as a provincial city which has the largest GDRP but is followed by a large population so that its performance is ranked third.

Figure 1.

Besides that, the two lowest economic performances were in Pesisir Selatan and Solok Selatan regency. This is because these two areas include a large area in West Sumatra with the main livelihood of the population is the primary sector such as agriculture, fisheries, and plantations such as other agricultural products.

The next competitiveness can be seen from the Human Development Index (HDI) in each region in West Sumatra which shows indicators of the quality of human resources. The results of the study put five areas in the hight classification, namely Padang, Bukittinggi, Payakumbuh, Solok, and Padang Panjang. Included in the middle category are five, namely Pariaman, Sawahlunto, Agam, Tanah Datar, and Dharmasraya. Furthermore, there are 3 regions in the low classification, namely Kabupaten Padang Pariaman, Pesisir Selatan, and Limapuluh Kota. The remaining six regions are in a very low position. Overall, there seems to be some evidence to indicate that the city dominates the advantages and competencies of both economic performance and the quality of human resources [6,7,8]. The results obtained from the HDI analysis of region and city in West Sumatera are summarized in table 4.
TABLE 3: Rank Sub Indicators Economic Performance

| No | Region         | GDRP | GDRP/Cap | Growth | Performance |
|----|----------------|------|----------|--------|-------------|
| 1  | Padang         | 1    | 3        | 3      | 1           |
| 2  | Bukittinggi    | 12   | 2        | 2      | 2           |
| 3  | Payakumbuh     | 13   | 7        | 1      | 3           |
| 4  | Padang Panjang | 19   | 1        | 4      | 4           |
| 5  | Lima Puluh Kota| 5    | 12       | 8      | 5           |
| 6  | Pariaman       | 15   | 5        | 7      | 6           |
| 7  | Solok          | 17   | 6        | 5      | 7           |
| 8  | Sawahlunto     | 18   | 4        | 6      | 8           |
| 9  | Agam           | 2    | 11       | 15,5   | 9           |
| 10 | Kabupaten Solok| 6    | 15       | 9      | 10          |
| 11 | Dhamasraya     | 9    | 10       | 11     | 11          |
| 12 | Tanah Datar    | 7    | 14       | 10     | 12          |
| 13 | Padang Pariaman| 3    | 9        | 19     | 13          |
| 14 | Sijunjung      | 10   | 13       | 14     | 14          |
| 15 | Pasaman Barat  | 4    | 16       | 18     | 15          |
| 16 | Kepulauan Mentawai| 16 | 8    | 17     | 16          |
| 17 | Pasaman        | 11   | 18       | 13     | 17          |
| 18 | Pesisir Selatan| 8    | 19       | 15,5   | 18          |
| 19 | Solok Selatan  | 14   | 17       | 12     | 19          |

Source: data processing results

3.2. Regional Klassen Typology Analysis

To analyze the quality of human resources and their relationship to economic growth, a regional typology mapping of 19 districts/cities based on regional groupings into four quadrants can be seen in Figure 2. First Quadrant is the best regional classification because it has economic growth and high HDI, namely the cities of Padang, Bukittinggi, Payakumbuh, Padang Panjang, Solok, and Pariaman. The second quadrant is an area with high HDI but low economic growth, actually nothing is exactly in this quadrant, but it coincides with the fourth quadrant, such as Tanah Datar and Agam Regencies. The third Quadrant is Low HDI but high economic growth, namely Limapuluh Kota and Sawahlunto. And the last one quadrant is HDI and economic growth are low, there are nine regencies of Pasaman, West Pasaman, South Solok, Padang Pariaman, Sijunjung, Darmasraya, Pesisir Selatan, Solok Regency, and the Mentawai Islands. The Klassen Typology was used to determine the relationship between economic growth and quality of human resources support research conducted by previous researchers [9,10].
### Table 4: HDI Rating by Classification

| No. | Region           | HDI   | Classification | Rank |
|-----|------------------|-------|----------------|------|
| 1   | Padang           | 82,82 | H              | 1    |
| 2   | Bukittinggi      | 80,58 | H              | 2    |
| 3   | Payakumbuh       | 78,9  | H              | 3    |
| 4   | Solok            | 78,29 | H              | 4    |
| 5   | Padang Panjang   | 77,93 | H              | 5    |
| 6   | Pariaman         | 76,9  | M              | 6    |
| 7   | Sawahlunto       | 72,64 | M              | 7    |
| 8   | Agam             | 72,46 | M              | 8    |
| 9   | Tanah Datar      | 72,33 | M              | 9    |
| 10  | Dhamasraya       | 71,51 | M              | 10   |
| 11  | Padang Pariaman  | 70,61 | L              | 11   |
| 12  | Pesisir Selatan  | 69,9  | L              | 12   |
| 13  | Lima Puluh Kota  | 69,47 | L              | 13   |
| 14  | Kabupaten Solok  | 69,08 | Ls             | 14   |
| 15  | Solok Selatan    | 69,04 | Ls             | 15   |
| 16  | Pasaman Barat    | 68,49 | Ls             | 16   |
| 17  | Sijunjung        | 67,74 | Ls             | 17   |
| 18  | Pasaman          | 66,64 | Ls             | 18   |
| 19  | Kepulauan Mentawai | 61,09 | Ls           | 19   |

Source: data processing results
Note: H = High; M = Middle; L = Low; Ls = Lowest

**Figure 2:** Regional Typology Based on Economic Growth and HDI. (Source: data processing results)

### 4. CONCLUSION

The calculation and ranking of interregional economic competitiveness against 19 regencies/cities in West Sumatra provide an overview of the relative position of a region to other regions by taking into account all the factors owned by the region and...
how far the realization of the use [11.12]. The results of the calculation show a pattern of inter-regional competitiveness where the top rank is dominated by the city, and the Regency is in the lowest rank (fourth quadrant). Furthermore, the areas located in quadrants 2 and 3 which are the positions of high HDI but low economic growth and low HDI but high economic growth are Agam District, Tanah Datar, Limapuluh Kota, and Sawahlunto City.

5. RECOMMENDATION

The local government needs to follow up both vertically and horizontally. Vertical improvement is associated with local government efforts to improve the economic competitiveness of each region. However, this target is not necessarily achieved because if other regions do the same or even better, then it is not impossible that the vertical target of increasing competitiveness will not be achieved or even decrease. In this case, the improvement efforts made by the local government will be more horizontal. This means that although vertically it will not get better, the quality of each region will be better than the previous year.

The low contribution of HDI to the formation of economic competitiveness rankings and in order to realize the welfare of the people in West Sumatra in general and the region in particular, the program to improve the quality of education and human resource development is absolutely necessary. This can be done through the development of social investment in the fields of education, empowerment, and public health.

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