

## Research Article

# Economic Competitiveness and Quality of Human Resources in West Sumatra

Erni Febrina Harahap<sup>1\*</sup>, Helmawati Helmawati<sup>1</sup>, Siti Rahmi<sup>1</sup>, Zaqiah Ramadhani<sup>1</sup>, and Mora Mora<sup>2</sup>

<sup>1</sup>Economic Development, Economic and Business Faculty, Universitas Bung Hatta

<sup>2</sup>Physics Department, Andalas University

**ORCID**

Erni Febrina Harahap: 0000-0001-5041-7507

Helmawati: 0000-0003-4086-2660

Siti Rahmi: 0000-0003-2020-5241

Zaqiah Ramadhani: 0000-0002-6854-5352

Mora: 0000-0002-6983-5407

**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 Selatan, Pesisir Selatan, and the Mentawai Islands. This was also supported by the findings of Klassen's typology.

**Keywords:** competitiveness, region, Klassen typology, performance

Corresponding Author: Erni

Febrina Harahap; email:

ernifebrinaharahap@

bunghatta.ac.id

Published 22 March 2022

Publishing services provided by  
Knowledge E

© Erni Febrina Harahap et al. This article is distributed under the terms of the [Creative Commons Attribution License](#), which permits unrestricted use and redistribution provided that the original author and source are credited.

Selection and Peer-review under the responsibility of the 2nd-ELEHIC-2021 Conference Committee.

## 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

### OPEN ACCESS

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	<b>Indonesia</b>	<b>50</b>	<b>38</b>	<b>34</b>	<b>45</b>
6	Vietnam	75	70	68	77

Source: Directorate General of Strengthening Innovation-Ministry of Research, Technology and Higher Education, 2019

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 2: Indicator Determinant Intensity Classification

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

## 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

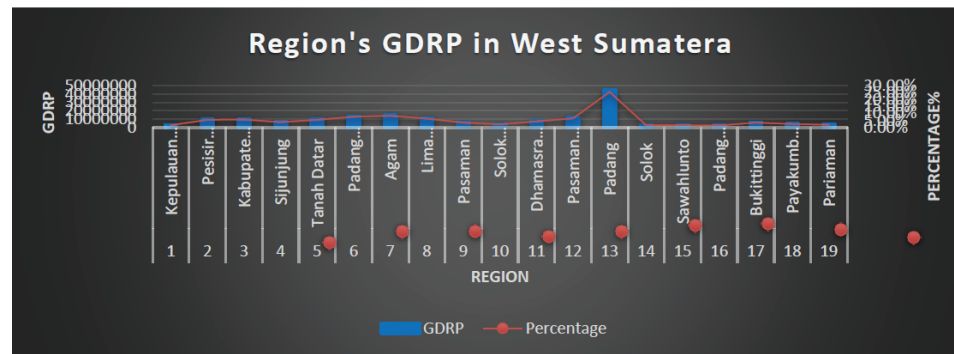


Figure 1: Regions's GDRP in West Sumatera. (Source: Statistic Central Berue, 2021)

Regency, which can even rank fifth higher than the cities of Pariaman, Solok, and Sawah Lunto, 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 high 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	Dharmasraya	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, Dharmasraya, 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	Dhomasraya	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

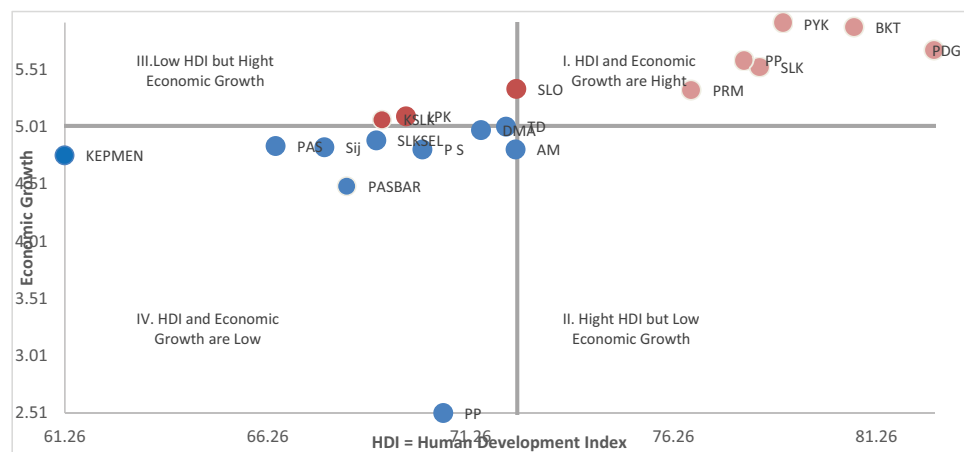


Figure 2: Regional Typology Based on Economic Growth and HDI. (Source: data processing results)

## 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.

## ACKNOWLEDGEMENTS

Alhamdulillah, thank God for His grace, this article can be completed. The author would like to thank Bung Hatta University, especially the Development Economics Study Program, where the author is the Advisory for the Industrial Economics course, so this study is very relevant and also to related institutions, which have made it easier to collect data. The author would like to thank family who are sincere supportive in the completion of this paper, and colleagues for the long discussions.

## References

- [1] Alisjahbana, Armida S, Abdullah P, Effendi, N., Boediono. Regional competitiveness, its concept and measurement in Indonesia. Yogyakarta: BPFE, 2002.

- [2] Direktorat Sistem Inovasi Direktorat Jenderal Penguatan Inovasi Kementerian Riset, Teknologi Dan Pendidikan Tinggi. Report on mapping results of regional competitiveness index information system development and innovation data, Jakarta, 2019.
- [3] Than Kee Giap. Nurina Merdikawati, Mulya Amri, Tan Kong Yam. Analisis daya saing Provinsi dan Wilayah. Lee Kuan Yew School of Public Policy - World Scientific Publishing Co Pte. Ltd. National University of Singapore; 2015.
- [4] Klaus Schwab. World Economic Forum. The global competitiveness report 2014–2015 Full Data Edition. is published by World Economic Forum. Switzerland; 2014.
- [5] Martin R, Kitson M, Tyler P. Regional competitiveness. Regional and Cities. Regional Studies Association. Routledge; London and NewYork. 2008.
- [6] World competitiveness Centre Rankings. Digital Competitiveness Ranking. Ranking published by The World Competitiveness Centre-IMD. Matthias Frey, Japan, 2019.
- [7] European Commission. EU regional competitiveness index. Luxembourg: Publications Office of the European Union; 2013.
- [8] Harahap, Erni Febrina. The spatial concentration of manufacturing industry workforce: Is there a change? *Jurnal Ipteks Terapan Research of Applied Science and Education*. 2021;15:34-47. <https://doi.org/10.22216/jit.v15i1.32>
- [9] Majewska J, Truskolaski S. Spatial concentration of economic activity and competitiveness of Central European regions. Wach K, Knežević B, Šimurina N, editors. *Challenges for international business in Central and Eastern Europe (PrzedsiębiorczoscMiedzynarodow Vol 3 No.1)*. Kraków: Cracow University of Economics. 2017;3(1):45-64.
- [10] Daryono S, Triyono T, Yuli TC. Regional competitiveness and its implications for development. *Jurnal Ekonomi Pembangunan*. 2013;14(2):160-171.
- [11] Katarzyna CH. Comparative analysis of regional competitiveness in Poland from 2010–2019 in the context of the concept of sustainable development. *Sustainability*. 2021;13(6):3202. <https://doi.org/10.3390/su13063202>.
- [12] Negrea AP, Valentin C. Supporting regional competitiveness through innovation. Case study: Sud muntenia. *Journal of International Studies*. 2013;6(1):51-58.