

Spatial Pattern of Leverage Regions

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Presidential Regulation number 96 year 2012 stated that allocation fund is weighted among others by Human Development Index (HDI), Gross Domestic Product (GDP), and Index of Physical Construction Cost (IKK). Law 33 year 2004 part 03 chapter 06 paragraph 32 article 03 allows certain regions not to receive allocation fund so that nation capital is separated from 497 regions. All data are available as public domain for the universe and sampling of regions is not necessary. Weights affect allocation fund so that any relatively distant weight deserves attention. Actual GDP data can be used to reduce certain regional allocation fund more than application of weights. Similarly actual IKK data can be used to supplement certain regional allocation fund on top of usual application of weights. Affected regional allocation fund is hopefully based on actual bivariate data of HDI and GDP as well as HDI and IKK. Other weights can also be taken into account if necessary. The remaining 491 regions are subject to leverage regions [points] detection by median absolute deviation [MAD] of GDP. There are 28 leverage regions [points] of only big cities and districts surrounding a big city. Allocation fund is among other things supposed to raise HDI and these 28 highest GDP regions are expected to show high HDI. It turns out that three leverage regions of highest GDP have low HDI, these are Karawang, Indramayu, Malang. These three GDP leverage regions having low HDI however are geographically surrounded by some higher HDI of lower GDP regions. Next 34 highest IKK leverage regions are separated that is regions where it is expensive to build physical infra structure such as bridge, hospital, traditional low rise market, school, office, pedestrian road, playground park. These 34 IKK leverage regions are mostly located in Papua and Western Papua of Papua Island. For visibility a bivariate minimum ellipse area is computed for 34 IKK leverage regions with regard to HDI. A bivariate minimum ellipse area is computed for 39 GDP leverage regions with regard to HDI. Further these IKK leverage regions are linearly correlated with HDI. The value of the linear correlation excluding Puncak Jaya district is -0,68. That is expensive regions are less developed in human measurement. Hopefully additional allocation fund for IKK leverage regions can simultaneously help human development and physical infra structure development. Despite low HDI, allocation fund for GDP leverage regions does not need any change.

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