

THE ECONOMIC RESILIENCE OF STREET VENDOR ON MALIOBORO STREET (THE IMPACTS OF KELUD ERUPTION FEBRUARY 13, 2015)

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This study aims to analyze the economic resilience of street vendor (PKL) on Malioboro Street. The economic resilience is comparison ratio between income before and after volcanic ash disaster. This study used DSER (Direct Static Economic Resilience) method to analyze how to count the economic resilience. Respondents in this research are street vendors on Malioboro Street. The street vendors divided into three kinds of commodity. First, street vendors with big size commodity. Second, street vendors with small size commodity. The last, street vendors culinary. The respondents is 93 people. The results show that economic resilience of street vendors with big size commodity is better than the other. The high of level economic resilience can reduce the effects of disaster, such as economic losses.

Keywords: volcanic ash, street vendors, Direct Static Economic Resilience (DSER), livelihood strategies, disaster management

INTRODUCTION

The Kelud Eruption occurred at 22.49 WIB, on Thursday 13 February 2014 (BPBD Kabupaten Malang, 2014). One of the impacts of eruption is volcanic ash. The volcanic ash is covered the road in many places, such as East Java, Central Java, West Java, and of course Special Region of Yogyakarta. In Yogyakarta, Malioboro Street is covered by volcanic ash. There is one most popular place to visit. 70 percentage of all of tourists or visitor in Yogyakarta must visit Malioboro Street (Government Tourism Service of Yogyakarta, 2014). Many kind of the aim to visit Malioboro, like shopping, culinary traveling, or just sight seeing.

Yogyakarta is the regional growth center, it's see from the most of population and social culture of the population. Malioboro street dominated by mall, hotels, government buildings, shopping centre, traditional market, and of course street vendors. Street vendors is one of

the informal sector which is the economic activity in mikro scale, do informal, work informal, all of informal (Harahap, 2010). Malioboro street corridor is one of street corridor which is support the social economy activity community that signed by the high mobility and activity and many kind of activity in Malioboro like office building, commercial activity and service (social culture tourism).

Malioboro street is the most popular place in Yogyakarta where affected volcanic ash of Kelud eruption. An unexpected decreased of foreign tourist or local tourist happened. The road and commodity are dirty because ash. The tourist like stayed at the hotel or guest house better than shopping at Malioboro street. The stores are closed. The traditional market are closed. The street vendors are closed too. They can not open the commodity to sell, because the situation and condition is not supported the economic activity as usual. They just cleaned the street and their commodity from ash. They do it together.

The street vendors got an economic losses because ash. The economic activity closed more about one week. A thousands of street vendors got an economic losses. In table 1 can be shown the amount of street vendors in Malioboro Street

Table 1 The amount of street vendors on Malioboro Street 2014

Number	Sub-district	Amount
1.	Gedongtengen	723
2.	Gondomanan	336
3.	Danurejan	354
	Total	1413

Source : Malioboro UPT, 2014

Based on Table 1, the amount of street vendors operated in three sub district. They are followed the organization of street vendors like the regulation of local government in Yogyakarta (Peraturan Walikota Nomor 37 Tahun 2010). The aim of organization is to coordinate, control, and develop the capacity of street vendors. The name of organization are Koperasi tri Dharma, paguyuban perajin, pelukis, dan pedagang kaki lima Malioboro, Koperasi Persatuan Pedagang Kaki Lima Yogyakarta, Pedagang Angkringan Malioboro Ahmad Yani, Kios warung dan lesehan (kwl) Malioboro, and Handayani.

The purpose of this research is to analyze the economic resilience of street vendors and how they can survive after volcanic ash disaster. This research included livelihood strategy that can reduce economic losses after volcanic ash. The high economic resilience is one

of the way that can reduce economic losses after disaster. It have been made to survive and life as usual.

Theoretical framework/literature review

Resilience has four roles in the economic literature. Most generally, it is noted as an attribute of the economy in studies of economic shocks. In ecological economics, it is major focus of analysis as a key attribute necessary for sustainability. Some attempts have been made to extend this research to the socioeconomic area and have it overlap with the study of institutions. In the disaster, it has been an important dimension of hazard economic loss estimation and terrorist consequence analysis (Rose, 2009). In the disaster literature, resilience has been inserted as a new factor in the risk question:

$$\text{Risk} = f(\text{Threat, Vulnerability, Consequence, Resilience})$$

Resilience is one of component to calculate risk. A high resilience can reduce the risk and otherwise. Resilience refers to post-disaster conditions and response, and limits the definition to reducing the *consequences* of failure (Comfort, 1994), as a distinguished from pre-disaster activities to reduce potential losses through mitigation (Bruneau et al, 2003). Another way to express the distinction is that economic resilience is stated in flow (rather than stock) terms in relation to economic output for a given period in time. Similarly, in relation to ecosystems, Holling (1973) defines resilience in terms of flow (productivity) measures as opposed to stocks. Resilience of more conventional capital assets (buildings, infrastructure) pertains to the ability of the stocks to absorb shocks (e.g, a building to withstand ground motion or the blast from a terrorist bomb) and is best considered in the purview of engineering resilience under the heading of “resistance or robustness”.

In this section, I provide admittedly crude mathematical definitions of resilience in both static and dynamic context. Direct static economic resilience (DSER) refers to the level of the individual firm or industry (micro and meso levels). An operational measure of DSER is the extent to which the estimated direct output reduction deviates from the likely maximum potential reduction given an external shock, such as the curtailment of some or all of a critical input:

$$\text{DSER} = \frac{\% \Delta DY^m - \% \Delta DY}{\% \Delta DY^m}$$

where:

$\% \Delta DY^m$: is the maximum percent change in direct output and,

$\% \Delta DY$: is the actual percent change in direct output

A further challenge to incorporating economic resilience into loss estimations and choosing ways to promote it is temporal variation of the feasibility and effectiveness of resilience strategies.

Materials and method

The respondents in this research is 93 street vendors along Malioboro with criteria.

- a. Located on the east of road from Inna Garuda Hotel until Beringharjo Traditional Market, front and back the store.
- b. Located on the west of road from the north until the Eks Indra Cinema, front and back the store.

The sample of this research is 93 people and divided by three criteria in Table 2

Table 2 The samples of street vendors on Malioboro Street 2014

Number	Commodity	Amount
1.	Big size commodity	40
2.	Small size commodity	26
3.	Culinary	27
	Total	93

Source: Primary data processing, 2015

From the processing population data, we got 93 samples from Slovin equation, with 10% error. Then, we choose the proportional sample to get the representative sample, called stratified proportional random sampling (Arikunto, 2002). The products of the big size commodity mostly are clothes (batik, shirt, short, trousers), hat, flip flop, bag, etc. The products of the small size mostly watch, accessories, neckles, bracelet, rings, etc. And the culinary street vendors are meatball, nodles, gudeg, lesehan, etc.

The variables that we used are income before and after volcanic ash happened, and livelihood strategy of each respondents. To get the data we used questionnaire and interview. Then, processing data with mathematics equation and also qualitative approach to analyzed how can street vendors survive after disaster.

Results and discussion

Risk and uncertainty are ubiquitous in economic situation. Every business have a risk and uncertainty factor during the business process, it depends about how we can minimalized and managed the risk and uncertainty. The economic resilience of street vendor Malioboro is calculated by DSER formula. It can be shown in Table 3

Table 3 The Direct Static Economic Resilience of Street Vendor

	Minimum	Maximum	Average
Big size commodity	28%	98%	54%
Small size commodity	29%	99%	47%
Culinary	33%	97%	44%

Source: Primary data processing, 2015

The economic resilience is percentage of difference income, before and after volcanic ash disaster. The income is along one month before disaster and one month after disaster. This period chosen by the most answer in questionnaire. About 80% of street vendors have been got normal income after three and four weeks, so it counted after one month.

Static and dynamic resilience related to the economic concept of short run (at the level of individual business). The informal sector (street vendors) is an individual business, some productive inputs are fixed. The fixed input would usually be capital, plant and equipment, because a certain amount remains in place, but it takes time to repair or rebuild. If the street vendors have a high economic resilience, it can solve the crisis after disaster with adaptive strategy.

The street vendors with big size commodity is the best economic resilience among other. The average economic resilience is 54 %. It means, they can repaired the income after disaster more about 54 % of the income before disaster. They felt the economic losses to a half of their income. They are not bankrupt, but they recovered after one month. They can manage and minimalized the economic losses immediately. Their capital is more stable than the other.

Inherent resilience refers to the ordinary ability to deal with crises (e.g., inventories, the ability of individual firms to substitute other inputs for those curtailed by an external shock, or the ability of markets to reallocate resources in responseto price signals). These abilities are already in place, can be enhanced prior to disaster, and implemented in the disaster aftermath if not damaged or eroded (Rose, 2009).

Adaptive resilience refers to the ability in crisis situations to maintain function on the basis of ingenuity or extra effort (e.g., increasing input substitution possibilities in individual business operations, recontracting or strengthening the market by providing information to match suppliers with customers). Adaptive resilience follows from post-disaster learning and pushes the production efficiency frontier outward, though it does not necessarily require any investment (Rose, 2009).

In this research, and adaptive resilience is used, where the most of street vendors not have a big capital like the normal business. They

stayed with an enough capital to operated everyday. It means, depends of many factors, like time (weekdays, weekend, and holiday), the consumer or customer, supplier, and government policy.

White (1991), divided livelihood strategy into three strategy below:

1. Accumulation strategy, is adapted by the street vendors that have a high capital and many resources. In this strategy, they can make a product diversification and also have a competition with another market.
2. Consolidation strategy, is adapted by a middle capital and their income more stable.
3. Survival strategy, is the one of strategy to survive, they have not another job and be a street vendors is one job only.

The strategy is divided by the income of street vendors, at the Table 4

Table 4 Classification of street vendors

Category	Income	Amount
Low	Rp 1.000.000 – 12.000.000	Rp 54 % of small size commodity
Middle	Rp 13.000.000 – 20.000.000	Rp 40 % of big size commodity
High	> Rp 20.000.000	52 % of culinary

Source: Primary data processing, 2015

Based on Table 4, the street vendor who sell small size commodity have a low income, so mostly (54 %) used the survival strategy to minimalized economic losses. The street vendor who sell big size commodity have a middle income, so 40% of they used the consolidation strategy. Last, 52% culinary street vendors have a high income, so they used the accumulation strategy. The kind of strategy can be shown in Table 5

Table 5 Livelihood Strategy of Street Vendors

Strategy	Activity
Survival strategy	Pending the payment of liability Minimalized another output Maximalized this output Reduce the diversification products
Consolidation strategy	Get a loan Minimalized profit
Accumulation strategy	Used their saving to buy products Upgraded their sidejob

Source: Primary data processing, 2015

The kind of livelihood strategy on Table 5 can reduce the economic losses. Every street vendors have a different livelihood strategy. It depends on the capital, how many places that their have, the product, taste, and of course the daily activity of street vendors. The consolidation strategy is more safely than the other.

CONCLUSION

The direct static economic resilience can showed the economic resilience every street vendors. The street vendors which is have a good resilience is the big size commodity. And also the livelihood strategy their used consolidation strategy by get a loan and profit minimalized. The high economic resilience showed that they can survive and reduce the economic losses after volcanic ash disaster.

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