EFFECTS OF EXTERNAL FACTORS ON THE SMALL AND MEDIUM ENTERPRISES IN SOUTH SUMATERA PROVINCE, INDONESIA

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ABSTRACT

Small and medium enterprises are known to be major contributors to the economy of South Sumatra. However, the support they receive from government and other stakeholders are insufficient to the size of the sector. This paper examines the effects of external macroeconomic and social factors such as credit, education, tax and inflation on small and medium enterprises employment in South Sumatra. Secondary time series data from 1995 to 2014 was used for this research. The data was stabilized by first differencing then ordinary least squares method was applied to analyze the data. The results show that tax had strong negative influence on the SMEs employment at five percent significance level. Credit and education also had some impact on SMEs at ten percent significance level. However, their coefficients showed negative signs reflecting the negative growth of SMEs over the period. This meant that, despite the increases in credit received by SMEs and the primary and secondary school graduates entering the SME sector, the SME employment declined over the period. There was no significant influence on the SMEs by inflation over the period studied though the coefficient of inflation showed a positive sign disclosing that inflation had no negative impact on SME employment over the period covered.

Key words: Small and medium enterprises (SMEs), SME credit, .education, tax, inflation.

INTRODUCTION

In all economies, Small and Medium Enterprises (SMEs) make up significant component of total enterprises contributing to gross domestic product (GDP) and creating employment. As such, SME development is universally promoted justifying that the emergence of entrepreneurs is an important mechanism to generate economic growth (Tambunan, 2005; UNECE[1], 2003). SMEs are major source of employment, income generation, poverty alleviation and regional development (IISD[2], 2013; Indrawatia, 2012; Tambunan, 2005; Ramawickrama, 2011). SME sector is one of the principal driving forces in the development of a market economy (UNECE, 2003), encouraging private ownership and entrepreneurial skills. They are flexible and can adapt quickly to changing market demand and supply situations, help diversify economic activity, and make significant

[1] UNECE—United Nations Economic Commissions for Europe

[2] IISD—International Institute of Sustainable Development

contribution to exports and trade. Even in the developed market economies SMEs account for a large share in output and employment (UNECE, 2003).

Evidence from empirical studies disclose the importance of SMEs as major source of entrepreneurial skills, employment creation, income generation and innovation forming the backbone of any country's economy (Ahmad et al, 2012; ASEAN, 2014; ILO[3], 2014). For example, according to Muller et al (2014), across the European Union countries SMEs accounted for 99.8 percent of all enterprises, 66.8 percent of total employment and 57.9 percent of total value added generated by the non financial business sector in 2013. In the same year, in the member states of Association of South East Asian Nations (ASEAN), SMEs accounted for more than 96 percent of all enterprises, 50 percent to 85 percent of domestic employment, 30 percent to 53 percent of GDP and between 19 percent and 31 percent of total exports in 2013 (ASEAN, 2014). In Indonesia, SMEs made significant contributions in generating more than 99.99 percent of the total number of enterprises, 97.24 percent of employment, 57.94 percent of GDP and 16.44 percent of total national non-oil and gas exported in 2011. In 2013, SMEs formed 98.26 percent of total enterprises and catered for 57.7 percent of total employment (excluding agricultural sector) in South Sumatra Province (National Statistics Agency or Badan Pusat Statistik (BPS), 2014). These statistics reflect the indispensable role of SMEs on the South Sumatra economy— in terms of creating employment and income at individual level as well as their contribution to the regional output. They also have an important function in bridging income gap and alleviate poverty.

Apart from internal factors, the growth of SMEs is profoundly affected external factors. External factors are those factors which SMEs have no influence or are determined by forces outside of the SMEs' control. These factors are macroeconomic, social and natural factors. The government has considerable influence over macroeconomic and social factors while natural factors such as bad weather or natural disasters are neither influenced by enterprises themselves nor by the government. The effects of these external factors on the growth of SMEs is not underestimated or downplayed as growing number of studies reveal. This thesis analyzes the influence of external factors especially macroeconomic and social factors such as credit, infrastructure, education, taxation, inflation, corruption and crime on the growth of SMEs and the SMEs impact on South Economy.

Problem Identification

The role of SMEs on national economies in terms of employment creation, income generation and their contribution to poverty alleviation is well recognized and acknowledged on the national and regional policy debate fronts as reflected in most SMEs literatures. But in reality, conducive government policies such as flexible tax rates, control of inflation, adequate infrastructure development, sufficient credit, development of educated and skilled labor force and entrepreneurial skills development SMEs access are often limited. Thus, it is very imperative that these external factors are studied in order for better understanding to be established for undertaking appropriate remedial measures.

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[3] ILO—International Labor Organization

Problem Statement

To what extent do external factors like credit, education, tax and inflation, small and medium enterprises in South Sumatra Province?

Objective

The objective of this study is to investigate, analyze and gain deeper understanding of the impacts of external factors such as credit, education, tax and inflation on the SMEs in South Sumatra Province.

Significance of this Study

Most Indonesian studies on SMEs are focused on internal factors and on common external factors such as credit, interest rates, tax or inflation. Studies on the influence of external factors such as infrastructure and education affecting SMEs in Indonesia are limited, (although there are numerous studies on these factors to the general business environment and economy). Further, there are only a few or no studies on the relationship between SMEs and the external factors in South Sumatra Province. Therefore, this study contributes to the existing knowledge on SMEs and enhances the knowledge on how external factors like credit, education, tax, and inflation influence the success or failure of SMEs in South Sumatra. These are factors outside the control of SMEs and more or less influenced by government. Understanding the factors affecting SMEs is critical and imperative for government in designing and implementing appropriate policies to nurture the growth of SMEs and the subsequent development of provincial and national economy.

LITERATURE REVIEWS

Theoretical Framework

The growth of a firm or an industry or an economy is measured using several variables like output produced, employment level, number of firms added to an industry in a given period of time, the size of turn-over and any other parameters deemed appropriate for measuring growth (Bianchi, 2007; Govori, 2013). At macro level the most commonly used measure of growth is output (GDP). As such, the study of output and growth are inseparable and economists have always been puzzled by question of what affects output and growth of economies. Equally puzzling is the question of why some countries (or firms) grow faster than others with similar endowments. These questions are essentially important questions at the heart of economic policies of various governments. Thus, the quest to define and understand underlying factors influencing economic growth remains to be at the center of the study of economics. Since the beginning of study of economics many theories have evolved in order to understand these phenomena. This study builds on *Exogenous Growth theory* first independently developed and introduced by Solow and Swan in 1956.

The Exogenous Economic Growth Theory[4]

The *exogenous growth theory* states that economic growth occurring within an economy (or a firm) is influenced by factors outside that economy (firm). It believes growth is exogenous and is the product of decisions made outside the economy (or firm). Alternatively, growth is not the result of decisions made by private economic agents such as SMEs. This view, built on the *Solow-Swan exogenous growth model* is set within the framework of

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[4] The discussions under this section is mostly taken from these sites
http://macroresearch.org/blog/the-solow-swan-theory-of-economic-growth/ and
http://www.aw-bc.com/info/todaro_smith/Chapter4.pdf

neoclassical economics. In the Solow-Swan model, long-run economic growth is explained by capital accumulation, population growth (or labor) and increases in productivity (often referred to as technological progress). The basic output function is given by:

Y (t) = F (A(t), K(t), L(t))....... (1)

where Y(t) is the aggregate output (GDP), K(t) is aggregate physical capital (which may include human capital), L(t) is aggregate labor (or population) and A(t) is a exogenous technological growth (also referred to as total factor productivity or Solow's residual). Technological growth[5] is assumed to be free and it is publicly available as a non-excludable and non-rival good.

Fundamental to the Solow-Swan model is the neoclassical Cobb-Douglas production function which measures the aggregate production—and links with microeconomics. This model tries to explain both short-term and long-term growth in per-capita variables only through some type of *exogenous growth* in productivity.

According to this Solow-Swan model, the basic macroeconomic Cobb-Douglass function is given by:

$Y_t = F (A_t K_t^{\alpha} L^{\alpha-1}), 0<\alpha<1$ .... (2)

Where α is the parameter which dictates the pace at which output gradually lessens

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[5] Technology refers to the knowledge of how to produce outputs in an economy or by a firm at a particular point in time including the techniques of production that are available. The amount of a given output which can be produced depends to on the physical quantity of resources employed in its production and the technical "state of art" in productive methods. Economic services include the services of labor, machines, land and raw materials, which are the inputs necessary for production (Basenko, 2004; Hyman, 1998; Wikipedia, 2014).

or elasticity of output with respect to capital (physical & human) and assumed to be less than 1.

The assumptions underlying the Cobb-Douglas production function are;
i.   time is continuous
ii. a single good is produced with a constant technology.
iii. all factors of production are fully employed
iv. labor grows at a constant rate
v.   constant return to scale—the amount of output depends entirely on input. diminishing marginal returns to capital factor accumulation.

In addition, there are four other equations in the above model which are simply the growth equations of the independent variables because to understand the growth of output we must know the growth of inputs. Thus, the growth of capital growth depends on savings   and   depreciation. Mathematically,
$K'_t = Y_t - C_t - \delta K_t$ .... (3)

where K'_t = capital accumulated in each period,
C_t = consumption in each period and
δ = depreciation rate and others as above.
In other words, the addition to the capital stock each period depends positively on savings
($s_t = Y_t - C_t$) and negatively on depreciation (δK_t), which is assumed to take place at rate (δ);
the growth of labour input grows at rate **n**:

$$\frac{L'}{L} = n; \quad .... (4)$$

technological progress grows at rate g:

$$\frac{A'}{A} = g; \quad .... (5)$$

And a fraction of output is saved each period

$$Y_t - C_t = sY_t \quad \ldots\ldots\ldots (6)^6$$

Now linearizing the exponential equation 2 we have;

$$Log(Y_t) = log(A_t) + \alpha \, log(K_t) + (1-\alpha) \, log(L_t) \quad \ldots(7)$$

Then taking the derivative with respect to time, the neoclassical exogenous growth can be expressed as;

$$\frac{Y_t'}{Y_t} = \frac{A_t'}{A_t} + \alpha\frac{K_t'}{K_t} + (1-\alpha)\frac{L_t'}{L_t} \quad \ldots\ldots (8)$$

Where:

$\frac{Y_t'}{Y_t}$ is the rate of change in gross domestic product

$\frac{A_t'}{A_t}$ is change in technological progress (productive efficiency)

$\frac{K_t'}{K_t}$ is the rate of change in capital consumption

$\frac{L_t'}{L_t}$ is the rate of change in labour consumption

Empirical Studies on Exogenous Growth Theory

Since the introduction of exogenous theory in 1956, many growth economists have vigorously pursued and expanded the theory with both theoretical and empirical studies. Many empirical studies have augmented the initial model by adding other explanatory variables to explain the growth of economies.

Mankiw et al (1992) using augmented Solow model found human

capital as well as physical capital provided an excellent description of cross country data. They found that holding population growth and capital accumulation fixed, countries converge at about the rate augmented Solow model predicts. They justify their addition of human capital in the Solow model by arguing that the data effects of savings and population growth on income are too large. They attributed these large effects of savings and population growth on the absence of human capital in the model. They assert the inclusion of human capital on two reasons. First, for any given level of human capital accumulation, higher savings or lower population growth leads to higher level of income; hence, accumulation of physical capital and population growth have greater effects on income when human capital accumulation is not taken into account.

Second, human capital accumulation may be correlated with savings rates and population growth rates; this would imply that omitting human capital accumulation biases the estimated coefficients on savings and population growth. To test their argument they included human capital accumulation into the model and found that human capital was in fact correlated with savings and population growth. Including human capital in the model lowered the effects of savings and population growth on the growth of income (output). This implied that human capital had strong explanations on the savings and population growth in the Solow model. Consistent with Mankiw et al (1992) is Fischer (2009) study. Fischer (2009) used data for 198 regions across 22 European countries over the period from 1995 to 2004 to analyze the impact of changing the variables used by Mankiw et al (1992) to test the dependent variable in the model, and found the variables to be

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[6] In the neoclassical growth model for a closed economy, the saving rate is exogenous and equal to the ratio of investment to output. A higher saving rate raises the steady state level of output per effective worker and thereby raises the growth rate for a given starting value of GDP (Baro, 1996).

consistent with the findings of Mankiw et al (1992). He asserts that not only does human capital externalities have direct impact on the growth of output but also have indirect influence through spatial spillover effects which arise from changes in a neighboring regions (human capital accumulation, physical capital accumulation and population growth).

This arises from introducing technological interdependence among a few neighbors at the outset in the theoretical model. A logical consequence of the simple dependence on a small number of nearby regions in the theoretical specification of the aggregate level of technology leads to a final-form model outcome where changes in a single region can potentially impact all other regions.

As one moves to more distant regional economies of concentration, there is a decay of influence (Fischar, 2009). In addition, Wahyudi and Jantan (2012) used Solow model and augmented Mankiw et al (1992) model separately to test the determinants of economic growth in four ASEAN nations namely; Indonesia, Malaysia, Thailand and Philippines for the period 1980 to 2004. Their findings were consistent with the Solow model but for augmented Mankiw et al model, the independent variable labor was insignificant which was inconsistent with other previous findings. They attributed the inconsistency to differences in the proxy used for labor.

Further argumenting the Solow and Mankiw (1992) models, Baro (1991, 1996, 1998, 2001) did several cross-country studies on the growth of 100 countries using independent variables such as initial real GDP per capita, schooling, life expectancy, government consumption, rule of law[7], inflation,

terms of trade, political freedom and democracy to measure their influence on the growth. From his findings he concludes that for a given starting GDP, higher initial schooling and life expectancy, lower government consumption, better maintenance of rules of law, lower inflation and improved terms of trade enhances growth. Political rights had little effect on growth though it showed non linear relationship and moderate amount of democracy was found to be good for growth but beyond that it had a negative impact. These findings are consistent with theoretical views and empirical observances.

At micro (firm/SME) setting, classical production theory limits itself to basic direct inputs like labor and capital (endogenous inputs) but in reality we know that there are many other exogenous factors which influence the production and growth implicitly and explicitly. For example, capital in microecomic classical theory is limited to those capital inputs owned and controlled by the firm but we also know the significance of public capital (infrastructure) like roads or wharves which contribute implicitly to the production or education and training which influence the quality of human capital inputs. And this is consistent with macroeconomic Solow growth model where these variables are claimed to be implicitly accounted in the model. Hence, we consider all independent variables discussed in this paper as external factors taken from the perspective of Solow's neoclassical exogenous growth theory.

Research Accomplished

This section discusses the definition of SMEs and extends some literature review on the growth of SMEs

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[7] The concepts covered include quality of the bureaucracy, political corruption, likelihood of

government repudiation of contracts, risk of government expropriation, and overall maintenance of the rule of law (Baro, 1996).

and their impact on the economy, and the various exogenous factors influencing the growth of SMEs.

Definition of Small and Medium Enterprises.

The interpretations of SMEs vary between economic regions, countries, international financial institutions and industries even within countries. Many parameters such as the number of employees, amount of capital invested, amount of turnover, nature of business or a combination of two or more of these parameters give rise to these definitions (Bianchi, 2007; Govori, 2013; Ayyagari et al, 2003). Some economic regions and countries have legal definitions of the different categories of enterprises while others have arbitrary interpretations. European Union countries, United States and Indonesia are examples of which have legal interpretations. Current literature on identifies the key characteristics for SMEs used in countries with arbitrary definitions as: personalised management with little delegation of authority; severe resource limitations in finance, management and manpower; reliance on a small number of customers; operating in limited markets; flat flexible structures in terms of decision making and actions because of their small size, immediate feedback and quick response; high innovatory potential; reactive, fire-fighting mentality; poor accountability and record keeping ; informal; dynamic strategies and owner can be known by all employees (Mohammad and Obeleagu-Nzelibe, 2014; Singh et al, 2008; Hudson et al, 2001).

In this paper we use the Central Statistics Bureau or Budan Pusat Statistik (BPS) interpretation of SMEs

Table 1. Definitions for Small and Medium Enterprises Based on BPS		
Regulation	Classification	Criteria
Central Bureau of Statistics	Small Enterprises	Between 6 to 19 employees.
	Medium Enterprises	Between 20 to 99 employees.

Source: BPS (2014)

Based on BPS definitions, over 95 percent of the total enterprises in South Sumatra come under SMEs.

SME Credit

Extensive studies have been done with regard to SME financing. Studies done in industrialized and developing economies alike acknowledge the limitations in finance remains to be major hurdle faced by SMEs. For example, studies by Uzor (2004) and Bamidele (2012) found lack of finance as biggest hindrance to growth and expansion. Even when there is credit available, access to credit is made difficult by very high interest rates, processing fees and charges, lack of collaterals, restrictive credit conditions or combination of all. These restrictive credit policies by lenders are attributed to high risks inherent in the SMEs (Yamoah et al, 2014; Evbuomwan et al, 2013; Sharma and Gounder, 2011; Klyuev, 2008; Cook and Nixson, n.d). Yamoah et al (2014) in their study in Ghana asked the SMEs owners and managers to identify three most significant institutional constraints, the respondents ranked high interest rate (96%), high tax and import duties (88.9%) and utility charges (88.5%) as the three most significant constraints to enterprise development in Ghana.

In addition to inherent risks born by SMEs, some reasons why credit institutions may be reluctant to relax

credit include small loans not always justifying overhead costs for financial institutions, many SMEs being start-ups, with little or no credit history, and with few tangible assets to secure a loan (Klyuev, 2008[8]). Further, a large proportion of MSMEs offer untested ideas and innovative products whose commercial success is uncertain. As a result of these factors, SMEs across the world experience difficulties with access to finance, and government support for that sector is quite common (Klyuev, 2008).

In some developed economies, access and cost of finance by SMEs are not the major concern compared to other constraints. For example in a Canadian study, access and cost of finance was the least prominent constraint. According to Grant Thornton International Business Owner's Survey (as cited in Klyuev, 2008); constraint to credit constitutes less than 15 percent of total constraints in countries like Ireland, US, Canada, UK, Australia, France and Spain. In 2008, just below 80 percent of SME credit applications were approved in Canada and in April-September quarter of 2014, 86 percent of SME credit applications were approved in Ireland which is very high compared to developing and other developed economies (Red C Research and Marketing, 2014). However in most economies, lack of finance composes the major hindrance to SMEs development. Informal sources of finance such family members and friends plus credit cards continue to be the prominent credit sources especially in the micro and smaller enterprises (ibid). Rocha (2012) concludes that access to finance is one of the predictor that determines the share of SME sector in an economy where easy access to financial capital implies a larger share of SME sector in the economy.

[8] Klyuev cited from Industry Canada (2005).

Education

Education and training of both entrepreneurs and employees are important because they enable businesses to grow. Besides basic education, specialized training especially in the areas of management, accounting and financial knowledge are inevitable for success of SMEs. Usor (2004), Onugu (2005) and Tambunan (2011) studies found lack of education and training was deemed another obstacle in the progress of SMEs. They found that limitation on the level education of entrepreneurs not only in basic education but more importantly on specific skills and training in terms of entrepreneurship. Unugu in his study in Nigeria found management as the major problem affecting SMEs in Nigeria. Lack of better education and training especially in the areas of management, book keeping and basic accounting will obviously limit the success for SMEs. As this was found by Lingga (2013), where majority of entrepreneurs were not keeping complete accounting records to prepare financial statements with some not preparing any financial statements at all because of lack of accounting skill and knowledge and weakness of law enforcement. Without these important business records SMEs are vulnerable to bankruptcy because there is no adequate knowledge of where finances are coming and going. Inappropriate and misinformed business decisions results from lack of enterprenuers' own financial knowledge.

Since SMEs are bound by their nature and size of their business operation to employ less educated, less trained and less skilled labor, one factor to failure is attributed to this. This is especially true in developing economies, on the hand; in developed economies those SMEs which are involved in innovative high tech businesses are likely to hire highly specialized skilled workers. As less

developed economies advance, the level and quality of education also have to improve correspondingly. This is where the SMEs stand to benefit from education system which is relevant and appropriate for the changing economies. The contribution of education not only creates educated labor force but also provides labor forces with other aspects which are important ingredients contributing to overall success of businesses (SMEs). Skills like personal management skills which are indispensable for both employees and employers, understanding business environment, customer service, innovativeness and creativeness are some of the traits of educated labor force and entrepreneurs.

Education in every sense is one of the fundamental factors of development. No country can achieve sustainable economic development without substantial investment in human capital. Education enriches people's understanding of themselves and world. It improves the quality of their lives and leads to broad social benefits to individuals and society. Education raises people's productivity and creativity and promotes entrepreneurship and technological advances. In addition it plays a very crucial role in securing economic and social progress and improving income distribution (Ozturk, 2001).

Numerous studies have been done on the impacts of education on macro level. In a most recent study, Breton (2012) examined the role of education in economic growth from both a theoretical and historic perspective. After providing estimates of the quantitative importance of direct and indirect effects on the economy and calculating the marginal national returns for 60 countries, the results indicated that in 2005 the national marginal product of education was over 10 percent in highly-educated countries

and over 50 percent in the least educated countries. This study implies that investment in education in developing countries has higher returns and this also implies for SMEs at micro level. Breton further states that historical evidence indicates that if poor countries wish to achieve high growth they must invest in primary and secondary school (Breton, 2012). In fact, developing economies need to invest in their education system, especially skilled labor force to drive the SMEs and in turn the economies. Figure 1 shows the effect of schooling on national economy through SMEs.
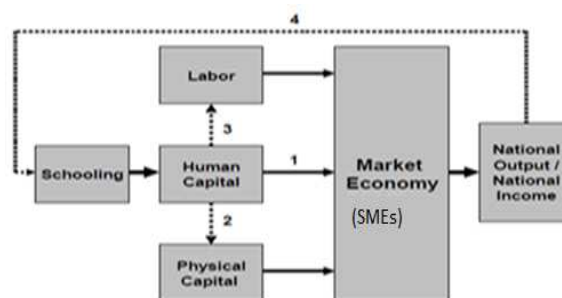
Source: Breton, 2012.
Note: SMEs insetted by author.

Figure 1: Effects of Schooling on the National Income in a Market Economy

Taxation

Government taxation, registration and licensing policies play important role in the establishment and operation of businesses including SMEs. High tax rates affect SMEs negatively by increasing the cost of operation. In a recent Tanzanian study of tax system impact on SMEs, the study concluded that tax rate added to higher production, distribution and selling costs which led to higher prices of the products. As a result of increase in price SMEs lose their customers consequently having negative impacts on employment and production. It also found that purchasing power of SMEs decreased immediately as tax rates increased (Mungaya et al, 2012).

However, this study focused only on micro and small enterprises and probably the respondents limited themselves to sales tax and neglecting the impacts of other taxes like income, property and profit tax. When all types of taxes are considered, taxes have high negative implications for SMEs.

Another study found that in those economies with burdensome tax regimes and other rigid government regulations, SMEs make up a larger share of informal businesses to evade the system while those economies with less rigid, flexible and business-friendly tax system and regulations have higher share of the SMEs in formal economy which is good for the government income (Ojeka, 2011). A business-friendly tax and regulatory system will encourage more SMEs into the formal sector and increase the revenue of the government at the same time.   Taxes on income, commodities and services, property and capital transactions, and other duties are indicative of the extensive role played by the government in the economy reducing economic freedom.

Inflation

Theoretically, the effect of inflation on output is both positive and negative. The cost-push inflation theory postulates negative implications for people as well as firms. It states that inflation increases the cost of inputs and reduces the output. The rise in price in turn forces the consumers to cut back their consumption reducing demand for output (goods and services) further forcing firms to cut back output. On the contrary, demand-pull inflation theory states that high demand drives up prices drawing firms to increase outputs. The increase in demand may be caused by increase in income bidding up the prices and output.

Empirical evidences of inflation support that inflation has negative influence on businesses decisions in terms of investments, pricing and employment. It can also have negative implications on bank lending. As assumed by Clarke et al (2002) in a cross-sectional study of Latin American countries. When comparing lending of foreign banks to small businesses, countries with price stability tend to have high credit dispersion than those countries with high inflation, though they propose that further work was needed to confirm this supposition. This finding implicitly implies that inflation has depressing effect on output since credit which is indispensable for investment is hampered.

The impacts of inflation on economic growth and their relation have been observed with empirical and theoretical evidences. Numerous studies support the implications of inflation on real income and real output in the economy. A recent cross sectional study of 140 countries by Chin-Chuan (2009) estimated the causal relationship between inflation and economic growth and found that inflation was harmful to economic growth as predicted by economic theories. When he split the data into high income, low income and middle income, the results indicated that the negative impact of inflation on growth in low income countries was greater than in the middle income and high income countries. In addition, Bekeris (2012) when studying the impacts of macroeconomic factors on SMEs' profitability found a strong negative relationship between inflation and SMEs' profitability. He found the when inflation increase there was a strong corresponding decrease in the profitability of SMEs. On the contrary, Attaria and Javed (2013) using time series data for the period 1980-2010 found that there was no short

term relationship but there existed long term relationship between inflation and economic growth. Further, Ajagbe (2012) when analyzing inflation and SMEs growth in one Nigerian state discovered strong direct positive relationship between inflation and SMEs growth (productivity). Again these contradictions in the different findings owe to what kind of inflation plays the major role. When demand-pull inflation overrides cost-push inflation SMEs benefit while the opposite will be detrimental to SMEs.

Conceptual Framework

SMEs growth is the product of many factors both internal and external (Bianchi, 2007; Govori, 2013). These factors affect SMEs both explicitly and implicitly. According to the conceptual framework figure 3; infrastructure, credit, tax, inflation, corruption, crime and education have influence on the growth of SMEs (growth in the size of employment engaged by SMEs[9]) in South Sumatra Province. Credit, infrastructure and education have positive impacts on the growth of SMEs. Tax, inflation, corruption and crime have negative impacts on the growth of SMEs.

The conceptual framework further shows that, SMEs in turn, have an influence on the growth of GRDP of South Sumtra Province.

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[9] Here MSE employment is used as the dependent variable due to availability of data. Other variables such as SME output, SME turnover, the number of SMEs could be used to measure SME growth (Bianchi, 2007; Govori, 2013). SME output and employment are good variables to be used to measure SME growth as they reflect changes due to both new SMEs entering or existing SMEs expanding or the combination of both.

Figure 2: Conceptual framework
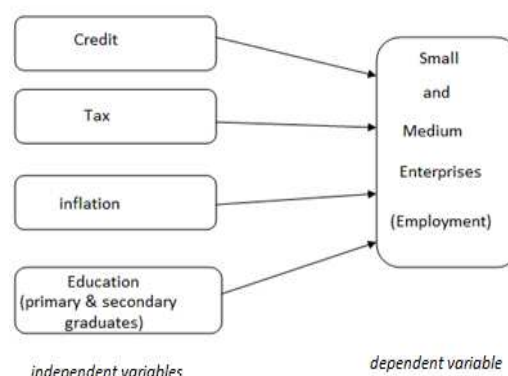
Scope of Study

The scope of this study is limited to assessing the impact of external factors namely; credit, infrastructure, education, tax, inflation, crime and corruption on the growth of SMEs in South Sumatra Province.

Hypotheses

H_1: Increase in credit and education improves the growth of SMEs.
H_0: Increase in tax and inflation discourages the growth of SMEs.

RESEARCH METHOD

Research Design

For this research, the data used is secondary data. These secondary data were collected from provincial offices in Palembang, the capital of South Sumatra Province. There are basically three locations where this data were collected; South Sumatra Provincial Statistics Agency Office (Badan Pusat Statistik (BPS)), South Sumatra Provincial Micro, Small and Medium Enterprise and Co-orperatives (Usaha Mikro, Kecil dan Menenggah dan Koporatif (UMKMK)) Office and Bank Indonesia South Sumatra Provincial Office.

Data Source and Data Reliability

This section describes the data sources and reliability of the sources of the data which are employed in the empirical analysis. The data are

secondary annual time series data and the main sources are the National Statistics Agency or Badan Pusat Statistik (BPS), *Usaha Micro, Kecil dan Menangah dan Korporatives (UMKMK)* and Bank Indonesia. These are legitimate state institutions responsible for collection and dispersion of various social and economic data through various ways of collecting data. Most of the data were collected through periodic business and social surveys. The inflation and credit data are based on the Monthly Banking Report which were prepared based on the compilation of commercial banks monthly reports of all reporting banks in Indonesia,while data on education and tax came from annual surveys.

This research used time series data for the period 1995 to 2014, a period of 20 years. A major constraining factor in the choice of the sample period was the availability of most SME data only from 1995 onward. Had it not been for this constraint, the sample period would have been longer.The secondary data used here are reliable because BPS, UMKM and Bank Indonesia are institutions mandated with the responsibilities of doing timely surveys and data are updated through regular surveys.

Methods of Data Analysis

The data is analyzed both empirically and quantitatively. Empirical data is mostly analyzed using tables and graphs, while quantitative data is analyzed using Eviews, an econometrics and statistical software version 3.0 designed for solving econometric and statistical problems. Both descriptive and inferential statistics are used to identify key opportunities and threats to the growth and development of SMEs.

Most data for all variables were available from the respective offices. Few missing data were handled using *missing data handling techniques* like *mean*

substitution technique or any other appropriate missing data handling technique to calculate and fit the missing values.

Regression Models

To measure objective, various attributes such as the number of SMEs, the level of employment in SMEs, the amount of output of SMEs or all of these could be used to measure SME growth as described in Bianchi, (2007) and Govori (2013). However, the study limited itself to one attribute and that is, SMEs employment as the dependent variable to be estimated because data on SMEs output was not available (especially for small enterprises). The model measures the growth using changes in SME employment for each year as the dependent variable because the number of people employed in SMEs reflect the growth of the sector due to new businesses entering or existing businesses expanding or combination of both. Similar studies which have used linear models include Kinyua (2014), Njaramba (2014), Subhan et al (2013); Rocha (2012) and, Hasan and Butt (2008).

So the regression model is stated as:
$$Y = f(X_1, X_2, X_3, X_4), \quad .... \quad (1)$$

where Y is the SME employment, X_1 is the credit, X_2 is education, X_3 is tax and X_4 is inflation.

In general equation;
$$Y = X_1^{\beta 1} X_2^{\beta 2} X_3^{-\beta 3} X_4^{-\beta 4} \quad .... (2)$$

When linearizing the exponential function by taking the log of equation 2, we obtain;
$$lnY = \beta_0 + ln\beta_1 X_1 + ln\beta_2 X_2 - ln\beta_3 X_3 - ln\beta_4 X_4 + ln\mathcal{C} \quad (3)$$
Where;
Y—is the in small and medium enterprises employment due to percentage changes in credit (X_1), education (X_2), tax(X_3) and inflation (X_4).

β_0—is the current level of technology applied by SMEs employees to get the current level of output in the absence of credit, education, taxes and inflation.

β_1—is the responsiveness of SMEs employment in response to percentage changes in SME credit,

X_1 is the in credit to SMEs,

β_2—is responsiveness of SMEs employment in response to changes in education (primary and secondary school graduates)

X_2—is the education (primary and secondary graduates),

β_3—is the responsiveness of SMEs employment to in response to changes in tax,

X_3—is the tax,

β_4—is the elasticity of SMEs employment in response to inflation

ΔX_4—is the changes in inflation rate.

$\mathcal{C}$—is the error term unaccounted for by this model.

Justification of Variables

In a World Bank Policy Research Working Paper on an SME study across the globe, Ayyagari et al (2003) examined the correlations between the importance of SME and informal sectors and various growth obstacles as reported by the SMEs themselves. They used data from the World Business Environment Survey (WBES), a major cross-country survey of small, medium and large enterprises that included questions on the severity of certain obstacles for the firm's growth and operation. They identified the main obstacles as: financing, infrastructure, political instability, inflation, exchange rate, street crime, organized crime, taxes and regulation, corruption, judiciary obstacle and anticompetitive practices. Basing on this and other relevant literature as already discussed in the content of this paper, the following variables have been chosen to be used.

Operational Variables

- SMEs employment is the total number of people employed annually in SMEs is taken as the dependant variable because the effects of independent variables are reflected by the SMEs' employment growth.

- Credit is the total amount of annual credit in current rupiah received by SMEs in South Sumatra Province.

- Education has positive impact on the SMEs growth by creating educated and skilled workforce. Most SMEs are likely to engage higher number primary and secondary school graduates because of the nature of their size and business. Here we use total number of graduates from primary and secondary level as the proxy for education.

- Taxes, licenses and fees add to the cost of operation of SMEs. The study uses land and building taxes as proxies for all other taxes to measure its impact on SMEs growth. All values are in rupiah in current prices.

- Inflation is one of the macroeconomic variables commonly used for measuring both micro and macro economic performance. Generally, inflation has negative impact on SMEs. Here annual average inflation rate is used to measure how it affects SMEs growth.

Regression Model Evaluation

In order for the analysis to be valid, the models had to satisfy the assumptions of logistic regressions. The assumptions of logistic regression analysis were met, avoiding problems such as biased coefficient estimates or very large standard errors for the logistic regression coefficients, and to acquire valid statistical inferences. Before using the model to make any statistical inference, the models were checked so

that the models fit sufficiently well and checked for influential observations that had impact on the estimates of the coefficients. The following statistical diagnostic tools were used to assess model fit and identified potential problems in the model and as well as identifying observations that had significant impact on model fit or parameter estimates.

For the diagnosis of the model the following statistical diagnostic tools were used to evaluate the models:

Testing for Model Specification.
Many similar studies had used either linear or log linear models. For this study log-linear model was used. After the collection of data MWD (MacKinnon, White and Davidson) test was conducted to choose the appropriate model. So to specify the models using MWD test we assumed:

H_0: *Linear Model: Y* is a linear function of regressors, the *X*'s.
H_1: *Log–Linear Model:* ln*Y* is a linear function of logs of regressors, the logs of *X*'s. where, as usual, H_0 and H_1 denote the null and alternative hypotheses.

The MWD test involved the following steps:

Step I: Estimate the linear model and obtain the estimated *Y* values. Call them *Yf* (i.e., Ŷ).

Step II: Estimate the log–linear model and obtain the estimated ln*Y* values; call them ln *f* (i.e., _ln *Y*).

Step III: Obtain $Z_1 = (\ln Yf - \ln f)$.

Step IV: Regress *Y* on *X*'s and *Z*1 obtained in Step III. Reject H_0 if the coficient of Z_1 is statistically significant by the usual *t* test.

Step V: Obtain $Z_2 = $ (antilog of ln *f* − *Yf*).

Step VI: Regress log of *Y* on the logs of *X*'s and Z_2. Reject H_1 if the coefficient of Z_2 is statistically significant by the usual *t* test.

According to Gujarati (2004), if the linear model is in fact the correct model, the constructed variable Z_1 would not be statistically significant in Step IV, in that case the estimated *Y* values from the linear model and those estimated from the log–linear model (after taking their antilog values for comparative purposes) should not be different. The same comment applies to the alternative hypothesis H_1.

After conducting MDW test log-linear model was accepted at 10 percent significant level.

i. *Test for Stationarity*
When dealing with time series data to estimate parameters the data is assumed to be stable. There are several ways of stabilization time series data. For this study log is another reason why we applied, i.e., to stabilize the data.

ii. *Testing hypothesis about an individual partial regression coefficient.*
The t-test was used to test the partial coefficient of each of the individual independent variables. Where under the assumption $ui \approx N$ (0, σ^2), the t-test was used to test the hypothesis about any *individual* partial regression coefficient. By postulating
H_0: $\beta_i = 0$ and H_1: $\beta_i \neq 0$
Where t-test is given by the formulae;

$$t = \frac{\hat{\beta}_2 - \beta_2}{\text{se}(\hat{\beta}_2)}$$

iii. *Test for the overall significance of the estimated multiple regression models.*
That is, finding out if all the partial slope coefficients are simultaneously

equal to zero. So to test the overall significance we postulated:

$H_0: \beta_i = 0$

$H_1: \beta_i \neq 0$

Where we use F-test given by the formula $F = \frac{ESS/(k-n)}{RSS/(n-k)}$

Where;

F—the value to be calculated

ESS—explained sum of squares

RSS—residual sum of squares

k—total number of parameters to be estimated

n—total number of observations

Data Analysis

SMEs Performance in South Sumatra Province

In South Sumatra Province, the SMEs are very huge compared to large enterprises in terms of the number of enterprises and employment. SMEs engage in all types of economic activities ranging from services to manufacturing to agricultural activities. This study leaves out SMEs in agricultural sector due to unavailability of data and confines to non-agricultural sectors.

In the small scales industries, the enterprises are categorized into five groups as shown in *table 2*. Within the last three years the number of units in small scale industries grew by 2.47 percent which brought 1.37 percent growth in employment in small scale industries for the same period. Much of this growth was contributed by general manufacturing industries which saw 451 units in 2012 hiked to 1590 units in 2014. At the same time, the number of units and employment in manufacture of chemicals and structural industries declined while all other small scale industries experienced growths.

The highest number of units and employment has traditionally being food and beverage processing industries followed by manufacturing of chemicals and structural industries. Year 2014 saw a drop in manufacturing of food and beverages while chemical manufacturing and structural industries increased compared to the previous year. Manufacturing of textiles, clothing and leather follow in third place and general manufacturing industries lags behind though it was the main sector that accounted for most of the growth for the last three years.

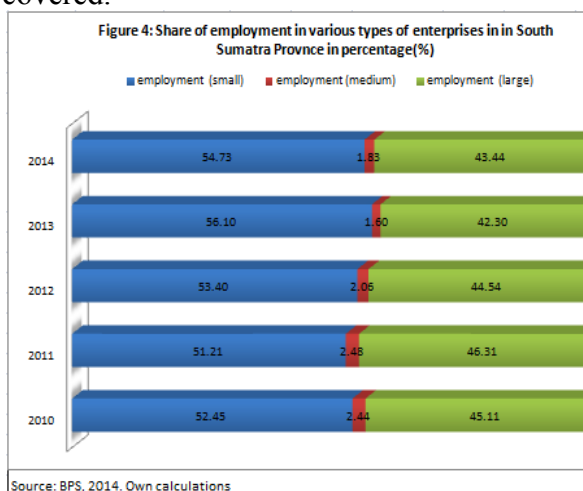| Table 2: Various Types of Small Scale Industries in South Sumatra Provonce						
	2012		2013		2014	
Smalll Scale Industrial Groups	Unit	Employee	Unit	Employee	Unit	Employee
Manufacturing of Food and Beverages	2942	13047	3212	13956	3077	13502
Manufacturing of Textiles, Clothing and Leather	487	5526	509	5667	498	5597
General Manufacturing Industries	451	2030	2729	18579	1590	10305
Manufacture of Fabricated Metal Product and Industrial Services	1797	8398	1876	8568	1837	8483
Manufacture of Chemicals and Structural Industries	2764	18640	532	2194	1648	10417
Total	8441	47641	8858	48964	8650	48303
Source: BPS, 2014						

Comparing medium sized enterprises to small and large enterprises, medium enterprises are less than small and large enterprises. However, medium enterprises are important transitional type of enterprises from small to large enterprises and compose a distinguishable size of the total enterprises, output share and employment share in South Sumatra Province. In 2013, small enterprises composed 97.99 per cent (8858) of total enterprises while medium enterprises made up for 0.27 per cent (24) of total enterprises. In 2014, small enterprises dropped slightly as medium enterprises increased (Figure 3).

Figure 3: Share of various types of enterprises in South Sumatra Province in Percentage

Source: BPS, 2014. Own calculations
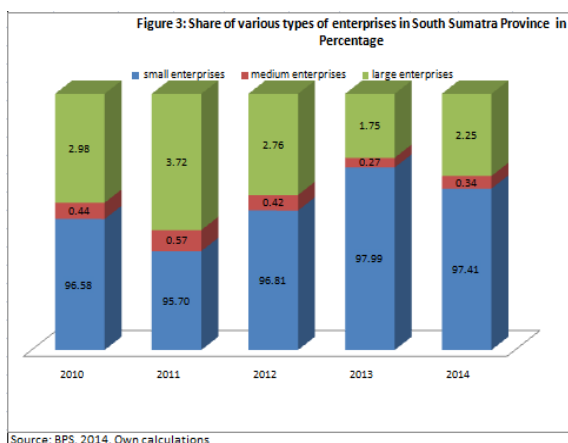
SMEs have always being major players of employment creation in South Sumatra Province providing well over 50 percent of employment.   Figure 4 depicts the share of employment in the three different types of enterprises for 2010 to 2014. In 2013, SMEs accounted for 57.7 percent of total employment compared to 55.46 per cent in the previous year. There was slight decline in SMEs employment in 2014. On the general trend of the number of SME units and SMEs employment, there was a gradual decline over the period this study covered.

Figure 4: Share of employment in various types of enterprises in in South Sumatra Provnce in percentage(%)

Source: BPS, 2014. Own calculations

The secondary data collected from BPS separates small enterprises but there were no distinct categories of medium and large industries. To separate the medium enterprises from large enterprises, the Central Statistics Agency's (BPS) definition of SMEs was used, where small enterprises consisting of 6-19 employees and medium enterprises consisting of 20-99 employees. To identify and separate medium enterprises from large enterprises, the numbers of employees in each industry is divided by the number of establishments in each industry and got the average worker per establishment for the six different types of industry groups. Those that had employees between 20 and 99 per establishment were taken as medium enterprises and those greater than 100 employees were taken as large enterprises.
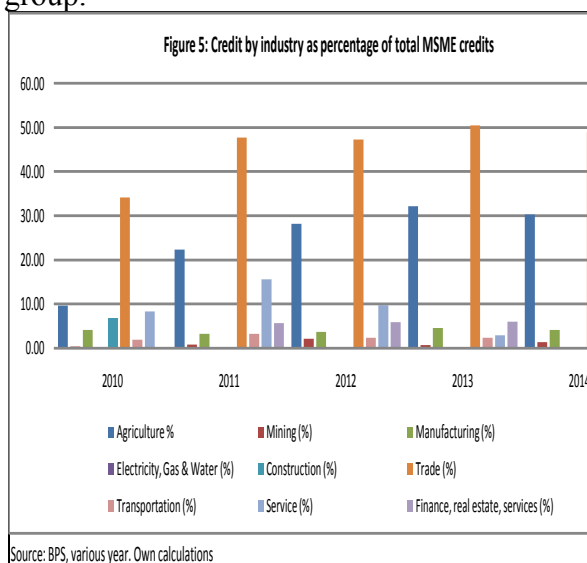
Small and Medium Credit

All the funds provided or debt in equivalent stated in Indonesian or foreign currency based on lending agreement between the banks and enterprises that meet the criteria of Act Number 20 of the Republic of Indonesia concerning Micro, Small and Medium Enterprises forms SME credit. Included in the SME credit is the government micro credit program called Kredit Usaha Rakyat (KUR) intended to provide the poor and micro enterprises who are not credit worthy due to lack of collateral with affordable credit. Under the KUR, SMEs and Co-operatives (UMKMK (Usaha Mikro, Kecil dan Menangah dan Ko-operasi)) can obtain working capital financing up to Rp.500 million for funds directly disbursement to borrowers and up to Rp.2 billion for funds provided through intermediary institutions. In the program six participating banks disperse loans to SMEs and co-operatives with a guarantee assuring the lenders/debtors with 70 percent subsidization by the government.

The SME credits dispersed are categorized in two main groups—they are, by industries basing on the kind of
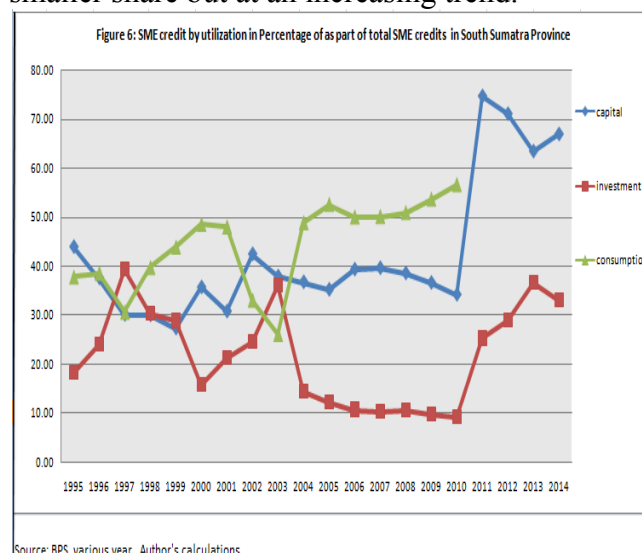
business activities SMEs are involved in and by the purpose or utilization of the credit. The credits dispersed on the type of business activity come in nine different business categories ranging from agriculture, mining, manufacturing, utilities (electricity, gas and water), construction, trade, services and others.

Observing figure 5, for the last five years the SME sector receiving biggest share of the SME credits was trade sector. In 2013 and 2014 trade sector took a little over 50 percent and 49 percent respectively. Agriculture sector was second highest receiver of SME credit with an increasing trend. Much of the SME credits were concentrated in trade and agriculture sector over the five year period. In 2011 credit to 'others' sector was replaced with finance, real estate and business services sector as a group.

Figure 5: Credit by industry as percentage of total MSME credits

Source: BPS, various year. Own calculations

SME credits by utilization are traditionally divided into three categories depending on the purpose of borrowing. SMEs borrow basically as investment, capital or consumption. Investment credits are actually starting capital for new ventures and capital credits are for the purpose of buying equipment, machinery and other input which aid production while consumption credits are

those credits obtained to support the normal operation of SMEs. Figure 6 shows the SME credits by utilization for 1995 to 2014. For year 2010 and preceding years, consumption credit had the biggest share of total credit for most years except 2002 and 2003 which dipped below investment and capital credits. Starting 2011 consumption credit was eliminated and only capital and investment credits were dispersed. For the last three years credit on capital composed the bigger share at falling trend while investment credit made up the smaller share but at an increasing trend.

Figure 6: SME credit by utilization in Percentage of as part of total SME credits in South Sumatra Province

Source: BPS, various year. Author's calculations.

Education

The effects of education on SMEs can be measure using proxy variables such as the number of educational institutions, the number of teachers and students, the number of school infrastructures such a classroom buildings, laboratories and so on.

In 2012/2013 academic year, South Sumatra Province had 7654 school buildings. The schools consisted of 1380 kindergarten schools, 4588 elementary schools, 1189 junior high schools and 769 senior high and vocational senior high schools. The number of teachers teaching in those schools in 2012/2013 consisted of 4578 elementary teachers, 23788

junior high school teachers, 21383 senior and vocational senior high school teachers. The teacher-student ratio for junior high school and senior high school had 17.06 and 11.59 respectively.

As of 2010 the literacy rate is almost at 100 percent. Average duration of study is eight years with almost two-thirds of eligible students attending junior high.

Figure 7: Number of graduates students in South Sumatra Province

Source: BPS, various years.
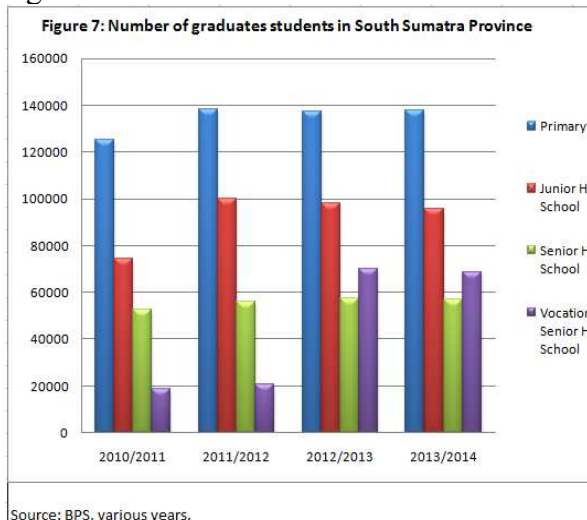
In 2013, South Sumatra Province had the following school participation rates for school-age population. There was over 98 percent school participation rate at primary school level (ages 7-12) and 89 percent of the children between the ages of 13-15 were in junior high schools. Further, 60 percent of 16-19 year olds were in senior high school and 14 percent of 19-24 year olds were at college level (19-24). For these empirical observations, it is clear that participation at high education especially college level still needs to be improved to create a skilled and knowledgeable labor force. Raising the education participation rate at higher levels of education will go a long way to supply skilled and knowledgeable labor force for the South Sumatra economy where it will boost SMEs and other enterprises.

Figure 7 shows the number of graduates at primary and secondary levels for the last four years. Over the four year period, the total number of graduates from primary and secondary levels increased by 32.6 percent although there was a drop in total graduates in 2010/2011 school year.

Inflation

Inflation rate measures the changes in the average prices of various basic goods and services within a given period of time in an economic region. In South Sumatra, the commodities used to calculate inflation come in seven categories. They are grouped into food ingredients, prepared food, housing, clothing, health, education and transportation.

Inflation for the period under study was mostly kept below 20 percent except in 1998 which accelerated up almost six times from 12.9 percent in 1997 to 76 percent . The unusual inflation experienced was due to the famous 1997/98 Asian financial crises. In 1999 it plunged to 5.6 percent and since then it has been fluctuating between 1 percent and 20 percent.   In fact, the average inflation rate for the whole period was 12.25 percent. In 2010 the inflation rate was 6 percent but the following two years it fell hitting the lowest at 2 percent in 2012 then ascended to 7.03 percent and 8.13 percent in 2013 and 2014 respectively. The inflation rates for the last two years were just below the national average rates of inflation.

Comparing general the inflation level of South Sumatra with other parts of Indonesia it comes in intermediate inflation region.   This relative higher inflation rates compared to other regions like Java is often attributed to its location from main manufacturing center—the Java area where most industrial activities occur and the consequent transportations costs involved. The increase in inflation

for the last two years can also be partly attributed to the government's bold move to reduce fuel subsidy. Figure 12 shows the inflation for South Sumatra Province for the period under study.

Figure 8: Inflation rate for South Sumatra Province

Source: BPS, various years
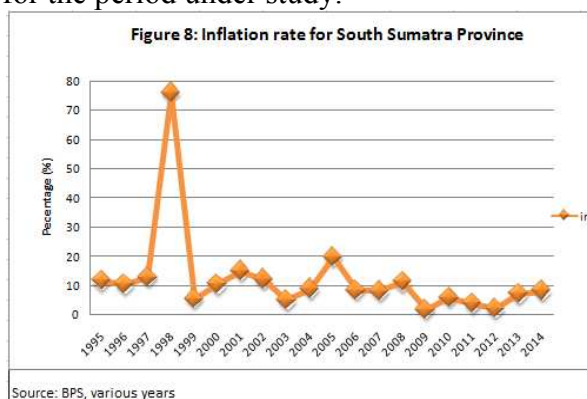
Taxation

Taxes in Indonesia are levied at national, provincial and local level. Major taxes are levied at national level. There are different types of taxes imposed.

Corporation Income Tax—Companies in Indonesia are taxed at a rate of 25%, for both domestic and international sourced income. Resident Indonesian companies are required to withhold tax at a rate of 20% from payments to foreign companies (http://en.wikipedia.org/wiki/Land_value_tax). Foreign direct investment companies must pay corporate income tax based upon Indonesian source revenues.

Corporation income tax is calculated on the basis of income less certain deductions. Any foreign tax paid by the company may be used to credit the amount of income tax to be paid to Indonesia. Non-resident companies are only liable for taxes withheld.

Tax losses may be carried forward for 5 years as an offset against profits in those years. Some types of industries are allowed to carry forward such losses as an offset to profits for up to 8 years.

A company is resident in Indonesia if it is managed, controlled or has its head office in Indonesia. Branches of foreign companies are taxed only on those profits derived from activities carried out in Indonesia. However, income accruing from an Indonesian branch to a foreign parent is taxed as income of the branch if the business is of a similar nature to the business of the branch.

The tax rate for corporate income exceeding 100,000,000 Rupiah is 30 percent. This is the maximum corporation tax rate. Petroleum companies are subject to tax at a flat rate of 30 percent to 45 percent. General mining companies are taxed at rates ranging from 30 percent to 45 percent, depending on the generation of their contracts with the Indonesian government. Most recent mining contracts, though, provide for taxation on the basis of current tax rates with no tax rate escalation provisions.Geothermal companies are subject to income tax at a rate of 34 percent. Construction companies are subject to a final tax at a rate of 2 percent of gross turnover. Construction design or supervision or consultancy companies in this category, other than legal and tax consultancy are subject to tax at a rate of 4 percent of gross turnover. Foreign drilling companies are subject to a rate of 5.6 percent of their gross turnover. Non-resident international shipping companies and airlines are subject to tax at a rate of 2.64 percent of gross turnover. (http://pajak.net/info/indonesian_tax_system.htm)

Goods and Services Taxation (GST)—GST is levied at the rate of approximately 10 percent at point of sale, by major vendors. Sales and services tax are exempt from cottage economies and industries.

Land and Constructions (Building) Tax—Land and Building are paid annually, or may be paid via arrangement in ten-year blocks by Indonesian land title deed-holders, pursuant to relevant criteria

for exclusions. In general terms, this tax is applicable mainly to those of the middle classes and upwards. Land holding businesses must also pay this tax (http://en.wikipedia.org/wiki/Land_value_tax).

Land and Constructions thereupon are calculated at a value calculated by the Regional government- which is less than real market worth. This calculated value has the caveat of being a legally non-negotiable purchase price if the Government wishes to procure said land. The tax rate is between 0.1 percent to 0.3 percent of the property's value. (http://en.wikipedia.org/wiki/Land_value_tax).

For this study, land and building tax and indirect taxes are used as proxies for all different types of taxes because data on other types of taxes are unavailable. Land and building tax is good proxy to be used for SMEs because it is a property tax which is levied on all businesses and is also representative of all types of taxes paid by SMEs. Land and building tax is levied between 0.1 percent and 0.3 percent annually by provincial governments while indirect taxes are levied at different rates. For the period under study, the total amount of tax collected fluctuated. In the last five years, total amount of taxes collected from land and building and indirect taxes increased from 1.08 percent of GRDP (Rp. 170 7903 2781) in 2010 up to 1.32 percent of GRDP (Rp. 2 414 139 360) in 2011 and then dropped to the lowest in five years in 2013 at 0.33 percent of GRDP (Rp. 771 831 144). In 2014, the total amount of taxes collected from land and building and indirect taxes composed 0.51 percent of GRDP. The fluctuation in the amount of taxes collected depend on the economic conditions in the province in any given year. Figure 8 shows the amount of taxes collected over the last five years.
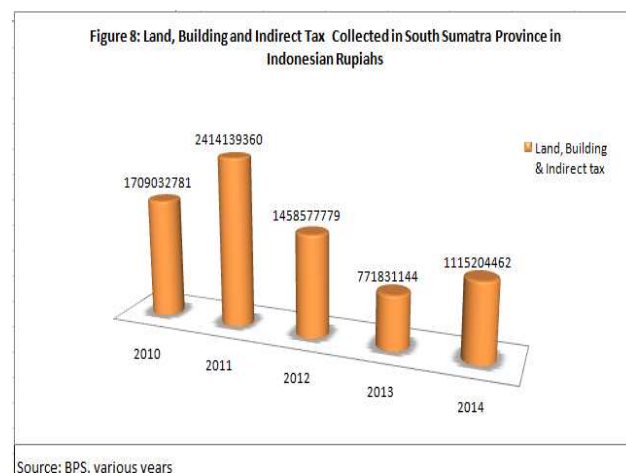
The land and building tax is collected from five main sources namely; rural, urban, estate, forestry and mining. Mining has always been the main sector providing biggest share in the total land and building tax. In 2013, mining sector provided twice (71%) the combined taxes from rural, urban, estate and forest. Figure 9 shows the composition of land and building tax in South Sumatra Province for 2013.
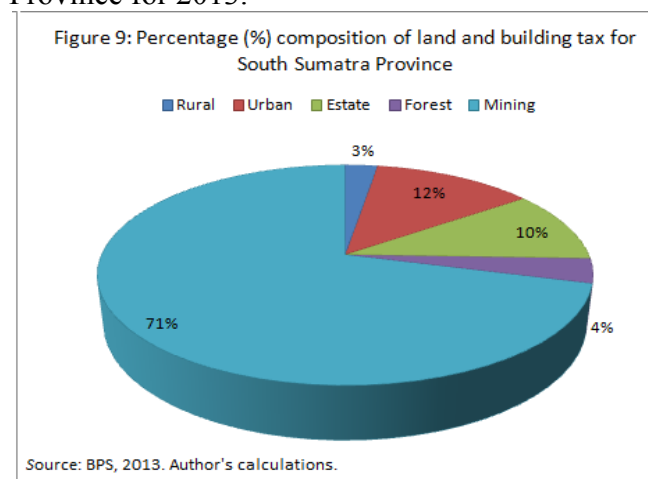
Econometric Model Results Discussions
Table 3 shows the estimated regressions results.

Table 3. Regression Model Results

Dependent Variable: LGMSMEMP
Method: Least Squares
Date: 07/20/15   Time: 14:24
Sample: 1995 2014
Included observations: 20

Variable	Coefficient	Std. Error	t-Statistic	P
C	29.35456	5.703442	5.146814	0.
LGCR	-0.158455	0.082886	-1.911717	0.
LGED	-0.829806	0.468458	-1.771357	0.
LGTAX	-0.257224	0.079247	-3.245830	0.
INFL	0.004646	0.002706	1.716670	0.

R-squared	0.923546	Mean dependent var	11.3
Adjusted R-squared	0.903158	S.D. dependent var	0.54
S.E. of regression	0.169745	Akaike info criterion	-0.49
Sum squared resid	0.432199	Schwarz criterion	-0.24
Log likelihood	9.967251	F-statistic	45.2
Durbin-Watson stat	1.919428	Prob(F-statistic)	0.00

Credit and education have some influence over the SMEs employment at 10 percent significance level and tax has strong influence on the SMEs employment at 5 percent significance level. Inflation has no significant influence on the SME employment. Looking at the signs of coefficients of credit and education, both have negative relationship with SMEs employment which implies that any increase in credit to SMEs and increase primary and secondary graduates had negative impact on the SME employment. However, these do not agree with theory where they are expected to have positive relationship. But this belief is based on the assumption that SME sector is growing, where SME variables like the number of SMEs, output and employment are increasing (where the dependent variable is increasing). In this case, the scenario is the opposite. The SME sector had declined over the period of study. Therefore, we have to be cautious in the interpretations of these results.

The negative coefficients of credit and education do not mean that they had negative impact on the SME employment. Rather, they simply mean that even though these variables had significant influence on the SME employment, yet the SME employment declined or experienced a negative growth over the period of study. What caused the negative growth of SMEs is a question left for future researchers to answer as it is beyond the scope of this paper. So, disregarding negative signs of credit and education we can infer that 15. 85 percent of SMEs employment results because of credit to SMEs and similarly 82.98 percent of SMEs employment comes from primary and secondary graduates in the education system.

Inflation has positive coefficient meaning that average inflation for the period under study did not have negative effects on SME employment with exception of 1997/98 economic crises. It was reasonable and favorable to SMEs which means the average inflation over the period of study raised the prices of their products and had little or no effect on the level of SME employment.

Tax had considerable impact on the level of SME employment and the coefficient is as expected where it has negative sign meaning that increase in tax had negative effect on the SME employment over the period of study. Although, this estimated model used land and building tax as proxy representing all other taxes borne by SMEs we can infer that many SMEs had been restrained by taxes. We can further infer by saying that taxes influence SMEs negatively by restraining SMEs which may wish to start or expand their ventures. As the land and building is 2 percent of the current value of land and building, where scarcity of land is a problem the value of land and building can be high. Consequently, taxes can also be high putting SMEs with limited choices given their tight finances and further affecting the potential employment and output by SMEs. Land and building transfer tax is also paid at 5 percent of gross transfer value. Other taxes like value added tax for purchase of materials all combined have significant effect on the SMEs. So from the result of table the coefficient of 0.25 means that a percentage change in the tax (indirectly

the value of land and building) will change the SME employment by 25 percent. Now given over 90 percent of total employment responsible by SMEs this can be significant concern for employment.

The explanatory variables in this model; credit, education, tax and inflation explain 92.36 percent of variations in SME employment. Overall, this estimated model is significant at 1 percent significant level within the population.

Conclusion and Recommendation
Conclusion

The role of SMEs on the provincial economy as observed and discussed is very paramount. Yet surprisingly, the study reveals that the SME sector in South Sumatra decreased over the period of study. The data on SMEs reveal a negative growth sector both in terms of the number of establishments (units) and employment level, although the same cannot be said in terms of SME output due to unavailability of data. Though the causes of decline of SMEs are yet to be established, the impacts of credit, education and tax suggest their indispensable roles in SME sector.

The regressions model results reveal that credit, education and taxation had significant influence on the SMEs while inflation does seem to have any influence on the SMEs employment.

Policy Recommendation
The various stakeholders in SMEs sector should;

i.   improve credit for SMEs
ii. improve primary and secondary education with skills development and
iii. review and design friendly tax policies for SMEs.

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