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## PANCASILA – ROADBLOCK OR PATHWAY TO ECONOMIC DEVELOPMENT?

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### Abstract

While Pancasila was initially adopted as a normative value system to guide Indonesia's political, social, and economic development after independence, the political implementation has always been subject to political dispute. Pancasila underwent three different stages: The Sukarno stage (1945-1967), the Suharto stage (1967-1998), and the post Suharto stage (1998-Present). During the Sukarno stage, Indonesia's young democracy still proved to be too turbulent to guarantee national unity, leading Sukarno to centralize political power in the name of Pancasila. Suharto, inheriting a defunct economic system, on the other hand, also used Pancasila as a legitimization for centralizing his political power. By the end of the Suharto era, the value system of Pancasila had been largely associated with political abuse, leading to its stigmatization in post-Suhartopolitics. At the same time, concerns for inequitable social development despite fast economic growth are on the rise. Indonesia is accordingly in danger of creating a void in its unifying normative value foundation that guides economic and public policy. This is especially true regarding the lack of safeguards against rising social injustice. This void may be filled by non-state actors like religious groups and radical movements and pose serious threats to Indonesia's future political stability. A return to a national dialogue regarding how to translate Pancasila's normative value system into political and economic reality is necessary to turn Pancasila from a roadblock to a pathway of sustainable development.

*Keywords: Pancasila, Pancasila Economics, Historical Analysis, Socioeconomic Development*  
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## I. INTRODUCTION

When Sukarno (1901-1970) led Indonesia towards independence from the Dutch, he rallied his supporters behind the vision of Pancasila (five principles). And although Sukarno used different wordings on different occasions and ranked the five principles differently in different speeches, Pancasila entered Indonesia's constitution as follows: (1) Belief in one God, (2) Just and civilized humanity, (3) Indonesian unity, (4) Democracy under the wise guidance of representative consultations, (5) Social justice for all the peoples of Indonesia (Pancasila, 2013).

Pancasila is a normative value system. This requires that a Pancasila economic framework must be the means towards the realization of this normative end. McCawley (1982, p. 102) poses the question: "What, precisely, is meant by '*Pancasila Economics*'?" and laments that "[a]s soon as we ask this question, there are difficulties because, as most contributors to the discussion admit, it is all rather vague." A discussion of the nature of Pancasila economics is therefore as relevant today as it was back then.

As far as the history of Pancasila economic thought is concerned, McCawley (1982, p. 103ff.) points at the importance of the writings of Mubyarto (1938-2005) and Boediono (1943-present). Both have stressed five major characteristics of Pancasila economics. These characteristics must be seen in the context of Indonesia as a geographically and socially diverse developing country after independence. They are discussed in the following five sub-sections.

### 1.1. State Enterprises and Cooperatives Play an Important Role

The importance of state enterprises has been a popular theme in early development economics, which was dominated by two camps. One camp advocated for a state to ignite a balanced growth strategy, the other for a state to start an unbalanced one. Both had in common that the state needs to start the process of economic development with a big push strategy. The only difference in thinking was: How should this big push be implemented?

Balanced growth strategists, whose most famous representative was Nurske (1907-1959), argued that the state needs to develop an investment strategy that allows for all sectors of the economy to grow at the same rate (Nurske, 1961). This thinking reflected the concern that rural-urban migration in the course of economic development would lead to a negligence of food and agricultural production. Without a strong role for an imbalances-preventing state, economic development would become a zero-sum game in which the manufacturing sector grows only at the expense of a declining agricultural sector.

The most famous advocate for an unbalanced growth strategy was Hirschman (1915-2012). According to Hirschman (1958), unbalanced growth strategists believe that the state needs to deliberately invest into the so-called commanding heights of an economy: energy, steel, telecommunication, and transportation. This is necessary for three reasons. First, without the many forward and backward linkages with the rest of the economy of these industries, economic actors' entrepreneurial spirits would remain dormant. As these leading industries reconnect most sectors of the economy, they uncover economic opportunities in related industries, which otherwise would remain untapped. Secondly, financial markets are too underdeveloped for them to be able to finance the formation of energy, steel, telecommunication, and transportation sectors. Third, so-called commanding heights are often natural monopolies that require governmental control.

Both Mubyarto and Boediono were clearly influenced by this discussion. They acknowledge that both state enterprises and private entities must play an important role in development. Both also stress the important role of cooperatives, especially for agricultural development, which in turn suggests that these two prominent Pancasila thinkers shared the concerns of the balanced growth theorists. Moreover, they advocate the need for all economic activity to contribute to social harmony, which identifies economic development as an important vehicle for national consolidation within Indonesia as one of the socially and geographically most diverse countries (compare McCawley, 1982).

## 1.2. Economic Man is Guided by Social and Religious Values

While this argument seems to be at odds with mainstream modern economics at first sight, a closer look reveals that it is not. Eventually, Adam Smith (1723-1790), the father of modern economics, saw himself as a moral philosopher. His moral philosophy was an attack on the medieval church's beliefs about individual responsibilities.

The medieval Catholic Church struggled with accepting private property as compatible with Christian values. The pursuit of self-interest was considered sinful. The church justified feudal land ownership, tax collections, and the restriction of individual citizens' economic opportunities with the church's alleged position as the earthly arm of divine law (Frost, 1, pp. 175-206). Others may argue that the medieval church abused this role.

Gutenberg's (1398-1468) invention of the printing press around 1440 marked the beginning of the decline of church power. The availability of the Bible to the common man terminated the Church's interpretive monopoly of God's words. As more people began to read the Bible, disagreement with the church's reading rose. Popular discontent eventually culminated in several peasants' uprisings across Europe. Europe's struggle for private land ownership had begun, but it was not before the 1789 French Revolution when it started to turn in peasants' favor.

As opposed to the church, Adam Smith explicitly accepted the idea that all individuals are driven by self-interest. But does that mean that a society which gives free reign to self-interest turns into a sin city in which waste, gluttony, and immorality flourish? The answer is no, at least as long as a society's scarce resources are allocated through a competitive division of labor.

Modern economics motivated by Adam Smith's ideas has shown that market competition forces all economic actors to use scarce resources wisely. No economic actor can afford to waste them for the purpose of personal vanity. The market place will punish such behavior immediately. Under competition, the wasteful loses against the frugal and the vain against the humble. Vanity, immodesty, and waste will ultimately increase the cost of production and reduce investment capacities. Competition teaches individuals the same values that the church preached too. But people's right to pursue their own interest has led to a much greater supply of basic needs than what would have been ever possible under the rule of the medieval church. This was the moral philosophy of Adam Smith.

Already long before Adam Smith identified private property rights and competition as morally justifiable institutions, the famous Islamic scholar Ibn Khaldun (1332-1406) had made the same argument. As far as the importance of private property rights is concerned, Khaldun notes: "Men persist only with the help of property. The only way to property is through cultivation. The only way to cultivation is through justice. Justice is a balance set up among mankind" (Khaldun, n.d., Book One of the Kitab al-'Ibar). Khaldun argues moreover: "Civilization and its well-being as well as business prosperity depend on productivity and people's efforts in all directions in their own interest and profit. When people no longer do business in order to make a living, and when they cease all gainful activity, the business of civilization slumps, and everything decays" (Khaldun, n.d., Chapter III, 41. *Injustice brings about the ruin of civilization*).

A more detailed study of the social and religious values embedded in the history of Islamic and Christian economic thought shows more similarities than differences. While there may be slight differences in the practice of Islamic and modern Christian economics and finance, their value systems are highly identical. They both rest on the belief that social prosperity starts with the economic empowerment of individuals, the division of labor, and competition.

The term competition often generates a negative connotation. This was particularly true in newly emerging countries after the end of colonial rule, where competition was frequently interpreted in a Darwinian sense of a survival of the fittest. However, neither Ibn Khaldun nor Adam Smith envisioned an economy in which, in the words of Proudhon (1947, p. 242), "competition kills competition." The ideal for Adam Smith was perfect competition in which no economic actor would have any market power. And when Ibn Khaldun described the nature of the

division of labor through specialization and market exchange, he talks about cooperation. Specifically, he notes that “the power of the individual human being is not sufficient for him to obtain the food he needs, and does not provide him with as much food as he requires to live. Even if we assume an absolute minimum of food - that is, food enough for one day, a little wheat, for instance - that amount of food could be obtained only after much preparation such as grinding, kneading, and baking. Each of these three operations requires utensils and tools that can be provided only with the help of several crafts, such as the crafts of the blacksmith, the carpenter, and the potter. [...] Through cooperation, the needs of a number of persons, many times greater than their own number, can be satisfied.”(Khalidun, n.d., *First Prefatory Discussion*).

Therefore, when Mubyarto and Boediono emphasized the need for an economic system that is in line with religious and social values, they simply highlighted a long tradition in the history of economic thought. This tradition shows many similarities in both Islamic and Christian economic thought. This religious legacy has become increasingly forgotten. Unfortunately, economics has detached itself from its normative origin and turned into a cultureless social science.

### **1.3. Economic Development Must be Equitable Social Development**

Modern economics has become overly negligent of concerns for equitable social development, even though that the trade-off between allocation efficiency and distributional justice is among the most controversial and unresolved debates in the history of comparative economics.

Socialists, for example, never disputed the idea that markets are efficient. In fact, Marx (1818-1883) argued that under the market “the production of too many useful things results in too many useless people” (Marx, 1844). Such a market scenario is plausible if, for example, the primary distribution of productive resources is highly unequal. Under an equal primary distribution of land and economic opportunities in combination with rigorous competition policy preventing market power, there is little reason to assume that factor labor would be marginalized. Obviously, under an equal primary distribution of land and economic opportunities, factor labor will have easier access to human and physical capital and finance than under a highly unequal economic system.

Not all economists would argue that economic development starting with high initial inequalities in terms of productive resources and opportunities will maintain social inequality. Laissez-faire economists, for example, would argue that market freedom will correct inequalities of the primary distribution of resources.

To illustrate this further, imagine a feudal society with a landed aristocracy and a landless peasantry. Assume the society decides to introduce laissez-faire capitalism without a land reform. A legitimate concern would then be to argue that a peasant’s child is unlikely to receive the same education and health care as the child from an aristocratic family. Peasants’ children would also be disadvantaged in access to financial services because they have no collateral.

A laissez-faire advocate would now argue that these concerns are theoretically not plausible. Why would a peasant’s child be disadvantaged in her access to education, health care, or finance? If the child is smart enough, her parents will take her to the next commercial bank, which is assumed to have perfect information and to operate under perfect competition, in order to verify the child’s future promise. Once this promise is established, the bank will be glad to finance the child’s health care and educational needs. And if the peasant’s child is smarter than the aristocrat’s child, she will also secure for herself enough funding to be able to buy land from the aristocrats. Market freedom could therefore end feudalism peacefully. For laissez-faire economists the primary distribution of economic assets and opportunities does therefore not matter. All that matters is market freedom. And whatever the market result is, it must be good and efficient. So, at least, the laissez-faire theory goes.

There is very little disagreement that equitable social development is necessary for national unity and social peace. Already Aristotle (384 BC- 322 BC) noted that “for when there is no middle class, and the poor greatly exceed in number, troubles arise, and the state soon comes to an end.”



Similarly, Adam Smith finds that “[no] society can surely be flourishing and happy, of which the far greater part of the members are poor and miserable” (Aristotle, n.d.).

By emphasizing that economic development means equitable social development, Mubyarto and Boediono were pointing at an important discussion. They knew that the path to socially equitable development depends on many factors like economic geography, a country’s social fabric, and historical factors and that there is no one-size-fits all political-economic philosophy, but only tailor-made designs. This is particularly true for a country as diverse as Indonesia.

#### **1.4. Building a Strong National Economy**

McCawley (1982, p. 103) notes that a “Pancasila economic system would openly recognize the need for an appropriate degree for economic nationalism in a developing country such as Indonesia, both because domestic political considerations demand a display of national independence and because domestic entrepreneurs are unable to ever compete successfully with either domestic Chinese firms or foreign competitors unless they are given support for a period of consolidation.” This argument is not necessarily an Indonesia-specific problem, but a general development-economic problem that addresses the so-called infant-industry argument.

The infant industry argument mirrors the thinking of many early development economists. It is a by product of dependency theory, which argues that formerly colonized countries are disadvantaged in international trade with developed countries. According to dependency theory, developing countries specialize on natural resources and factor labor intensive goods, while developed countries, which are often the former colonial ruler, specialize on capital intensive production. This international division of labor transfers much of the value added in global production to the industrialized countries. In order for developing countries to finance the imports of these high value-added products, developing countries would become ever more dependent on exports of their natural resources. Without protection of domestic industries, developing countries would never have a fair chance to catch up to developed countries.

The infant industry argument has a lot of support among development economists. Some even argue that all successfully industrializing countries after England temporarily protected their manufacturing industries. The interesting question is therefore not so much whether temporary protection is useful or not, but what the temporary protection should ideally look like. Shall protection be an import-substitution or export-led growth strategy? Shall government become an economic player like in the Japanese Keiratsu and Korean Chaebol models? Or, shall government leave the economic risk to the private sector exclusively?

Mubyarto and Boediono do not fit easily into a specific development model. Both were pragmatic economists who derived their policy recommendations from the careful analysis of the problems of a mostly agrarian economy at the beginning of development. They argued that building a strong national economy requires strengthening rural communities through cooperatives. Building a strong national economy must be a bottom-up process. National economic strength must rest on strong communities, not an economically strong state.

#### **1.5. Balancing Centralization and Decentralization**

The final characteristic that McCawley (1982) identifies as a distinct characteristic of Pancasila economics is the need for balancing centralized and decentralized decisions. This concern is again universal to all developing economies and echoes a fear from over-centralization.

The political organization principle that most effectively organizes the authorities of centralized and decentralized decisions is subsidiarity. Although the term subsidiarity does not appear as such, it was already addressed by the Federalist Papers. Alexander Hamilton (1755-1804), for example, wrote “that acts of the large society which are not pursuant to its constitutional powers, but which are invasions of the residuary authorities of the smaller societies” will not be

part of the “supreme law of the land.” Later, Abraham Lincoln (1809-1865) wrote: “The legitimate object of government is to do for a community of people whatever they need to have done but cannot do at all, or cannot so well do for themselves in their separate and individual capacities. In all that people can do individually well for themselves, government ought not to interfere” (quoted in Nicolay and Hay, 1894, p. 180).

The principle of subsidiarity is also relevant to social solidarity. Solidarity in line with the principle of subsidiarity means that the larger solidarity community should extend its help to a smaller group of vulnerable individuals only after the smaller group has exhausted the means to help itself. The interaction of individual responsibility and social solidarity is also common to Christianity and Islam. The five pillars of Islam, eventually, specify four individual responsibilities (declaration of faith, prayer, fasting, and pilgrimage) and one social (alms giving). Similarly, the Christian belief stresses both individual and social responsibilities.

In summary, if one examines what Pancasila economics is supposed to accomplish, no individual concern is really specific to Indonesia, but the sum of all concerns is highly relevant for the formulation of a successful development strategy for Indonesia. Mubiyarto and Boediono need to be credited with initiating the important dialog on how to give Sukarno’s national vision an economic identity. Both have sketched this identity by giving immense consideration to the details of Indonesia’s social fabric and developmental needs at the time.

Unfortunately, Mubiyarto and Boediono’s visions never became the face of Indonesia’s economic system. For example, both Sukarno and Suharto shifted the balance of power between centralization and decentralization in their political favor. This has changed during the post-Suharto reform period, which has seen a greater movement towards decentralization. At the same time, new challenges emerged, most notably the fact that Indonesia is increasingly confronted with inequitable social development. National dialogue on Pancasila economics must therefore continue.

## **II. ANALYSIS AND DISCUSSION**

### **2.1 The Three Political Stages of Pancasila**

#### **2.1.1 Sukarno**

Sukarno introduced Pancasila as the philosophical and ideological basis of the Indonesian state in 1945. During a speech to a preparatory committee for independence under the help of the Japanese (Badan Penyelidik Usaha Persiapan Kemerdekaan Indonesia, or BPUPKI) now known as the “Birth of Pancasila,” Sukarno presented his vision for the soon to be independent Indonesian state. He envisioned Pancasila as a means to cope with the multicultural composition of Indonesia. Pancasila principles were inclusivist and universalist in nature and consisted of principles Sukarno thought were shared by all Indonesians, and meant to mitigate conflict between religious and political groups present in Indonesia, emphasizing plurality and religious tolerance. Sukarno laid out his basis for the Indonesian state in these five principles that were later included in the Indonesian constitution. These principles were not derived from any one particular ethnic group, but rather were intended to create an Indonesian identity which was all encompassing. Pancasila was created to “replace other –isms” it is Indonesia’s “own ideology, which has grown within us and which wards off any other ideologies” according to former vice-president Adam Malik (1917-1984) (Jones, 1982). Discussions about Pancasila’s place in Indonesian politics and society were not without debate. There was a strong push from Muslims to specify Islamic obligations to Sharia. These stipulations however were later removed in an effort to consolidate national unity.

Initially, Pancasila was a well thought out response to the multicultural reality of Indonesia and a mechanism for unity within the state (Yuniarto, 2012). After independence, however the broad scope of Pancasila proved too challenging for a young democracy. Pancasila principles were laid out in a simple manner, yet have been conceptually challenging, especially for a newly democratizing state experiencing the growing pains of independence and regime change.

Conceptually, the principles of Pancasila are lacking definition and thus are difficult to apply in a meaningful or effective sense to political, economic or social policy. Elkof (2003, p. 31) argues that Pancasila was designed “to be broad enough to be acceptable to all Indonesians, regardless of ethnicity, religion or political beliefs.” Sukarno saw the ambiguity of Pancasila as a strength. The general nature and conceptual vagueness of Pancasila, however, provided a vehicle for Sukarno to sustain his authority.

Upon independence, in an effort to play to the allied forces that had very recently caused the Japanese surrender, Sukarno established a parliamentary system of government in which he remained the president and appointed a prime minister to deal with day-to-day affairs. The establishment of a parliamentary system also satisfied the internal demands for political parties. The parliamentary system proved to be quite unstable. Three main competing groups all had different visions of what the newly independent Indonesian state should look like. Nationalist parties desired a secular state, Islamists moved towards an Islamic state and communist parties envisioned Indonesia as a socialist state. The various political ideas have proven to be non-reconciliatory and drove Indonesia into political turmoil. Growing dissatisfaction with political instability caused Sukarno to take steps consolidating his power in an effort to unify Indonesia. After the 1955 legislative elections served to further reinforce antagonisms between the nationalists, Islamists, and communists, Sukarno called for a form of “guided democracy.” Guided democracy was an attempt to stabilize politics within Indonesia; it mocked community consensus and legitimate government through elections, which in practice had been pseudo-democratic reforms without any significant impact from the citizenry. In essence Sukarno’s Guided Democracy was a wolf in sheep’s clothing, serving as a platform to increase his own autocratic rule.

Throughout Sukarno’s rule, he increasingly neglected Indonesia’s economic system demonstrating that his regime under Pancasila was ineffective at creating and sustaining a viable economic system. At the same time, the Indonesian Communist Party (PKI) gained traction and influence within in the government which caused concern for both political Islamic parties and the Indonesian military. During this time period it was these three groups that provided the support for Sukarno to maintain his regime. The combination of growing economic unrest and increasing influence of the PKI would be the major factors in the fall of Sukarno’s regime.

### **2.1.2. Suharto**

Suharto came to power upon the resignation of Sukarno in 1967 after two years of political turmoil, economic and social unrest. Suharto’s time in power was known as the “New Order” as opposed to the “Old Order” of Sukarno. The New Order was promoted under the banner of Pancasila and Suharto envisioned his New Order as a society based on the Pancasila ideology. However, Suharto did not force the Pancasila principles immediately for fear of blowback from political Islam parties.

The successful stabilization of Indonesia’s economy in the late 1960’s helped gain support for the New Order and by 1978 Suharto was able to secure legislation mandating the application of Pancasila across a variety of political and social institutions (Morfit, 1981). This resolution required that organizations within Indonesia abide by Pancasila principles. For political parties, this meant that exclusion on the basis of religion was banned. This was an unwelcome development for parties of political Islam. Pancasila training became mandatory for government workers, students, and civilians across the country. This training, known as P4, was top-down administered and served foremost the purpose of giving Suharto’s political and economic program the legitimacy of the spirit of independence. Again, ambiguity of Pancasila worked to the autocratic leader’s advantage. Pancasila remained vague enough that it allowed Suharto maintain his grip on authority by identifying threats to his power as violations of Pancasila: “[t]o this end, government officials

thus evoked *Pancasila* to locate any political discussion, suggestion, organization or actor outside the permissible boundaries of the hegemonic political culture” (Eklof, 2003, p. 293).

Towards the end of the New Order, Suharto had led Indonesia towards economic recovery from the defunct economic system left by his predecessor and attempted to propagate Pancasila as a means towards political and social cohesion. The political Pancasila rhetoric and economic reality became increasingly divergent. As time passed, his autocratic leadership also invited corruption, cronyism and nepotism. Popular opposition to his rule had begun to grow, although not in an overt manner. However, the Asian financial crisis of 1997-1998, failing health and growing discontent among the public over his autocratic rule contributed to his resignation of the presidency in 1998.

### **2.1.3 Post-Suharto**

After the resignation of Suharto in May 1998, his then deputy Habibie (1936-present) ascended to the Presidency. The focus on the role of Pancasila in public and political spheres proceeded to decrease dramatically as a result of the political misuse and manipulation of the Pancasila ideology under the Sukarno and Suharto regimes.

The result is that Pancasila has become a national memory best forgotten and a dirty word in the vocabulary of politicians. Since the fall of the New Order, many political elites were wary of the incorporation of Pancasila as a policy or rhetoric for fear of being associated with autocratic regimes. Pancasila rhetoric has always been cause for concern. Jones (1982) cites a political thinker who finds that “Indonesians talk ‘Pancasila, Pancasila, Pancasila’ and they end up talking about nothing at all.” This points to one of the critical concerns regarding Pancasila; that its lack of clarity and policy application allows political elites to hijack it for their own power.

In recent years however, there appears to be a growing call for a return to Pancasila principles in political, social and economic spheres of Indonesian life. Despite the tendency to “walk on eggshells” where Pancasila is concerned, every year the state commemorates Pancasila Sanctity Day. This day is intended to be a reminder to Indonesians of the principles of Pancasila as a guiding ideology of the state. What has happened since the end of the New Order regime however, is that while many may be familiar with the guiding principles of Pancasila, the true meaning and message requires further education and reinforcement, especially among the youth population (Jakarta Globe, 2013).

The re-actualization of Pancasila in Indonesia will not be an easy task as the collective memory of authoritarianism remains fresh. However, Yuniarto (2012, p.1254) provides a much needed reminder that “associating Pancasila with a certain regime is a fallacious reasoning. Pancasila is not a claim of the reign of the Old Order, not of the New Order or the today’s reform, but is the national identity of Indonesia as long as its sovereignty is firmly established [sic].” In order to bring Pancasila principles back into the main stream it is critical to pull away from associations to prior regimes and focus on the inclusivist and universalist nature of Pancasila as a state ideology.

## **2.2 The Political Economy of Pancasila - The Way Ahead**

The original visions of Mubarto and Boediono provide the way ahead for the formulation of a Pancasila economic constitution. The normative intentions for a Pancasila economic system are as valid today as they were at independence, but a discussion on their economic implementation needs to start from scratch. A fresh discussion is necessary in order to learn from the political mistakes of the past and to revitalize the original spirit of Pancasila. An important question therefore is: what are new avenues for a discussion of the future role of the state, the incorporation of social and religious values, the initiation of equitable social development, building a strong national economy, and balancing centralization and decentralization?

### **2.2.1 Advancing the Role of the State**

The original idea that “state enterprises and cooperatives must play an important role” must be adjusted by the positive and negative experiences that different countries, including Indonesia, have made with the role of the state and cooperatives. Historically, state enterprises have played an important role in different development models. Different roles of the state can be categorized as:

(1) classical socialist state economies, (2) capitalism-reformist socialist countries like China and Vietnam, (3) state-led capitalist-industrializing countries such as Japan (Keiratsu) and South Korea (Chaebol), and (4) natural-resources fueled state economies like the Gulf States in the Arab world.

From a historical perspective, Indonesia evolved from a socialist development model under Sukarno to a combination of a state-led capitalist-industrializing and natural-resources fueled economy since Suharto. All three models are problematic. Socialism has failed because it is not incentive-compatible. State-led capitalist-industrializing economies tend to generate too-big-too fail industries and lead to corruption and nepotism, despite the fact that they prove successful in initiating economic development. Last but not least, the natural-resources fueled state economies need to deal with commodity price shocks, the Dutch disease, and lack of economic diversification.

That Indonesia’s development model and those of other East Asian countries are subject to risks became clear during the 1997/1998 East Asian crisis. The crisis has shown that the role of the state must not only be seen in promoting growth, but shock resilience as well. An important lesson from the crisis with regards to the role of the state beyond growth is that economic development requires the state to evolve from an economic actor to an impartial economic regulator and referee. As far as the regulatory deficiencies were concerned, Radelet and Sachs (1998, p. 37) note, for example, that “there were many problems and weaknesses in the Indonesian economy before the crisis, including under-supervised banks, extensive crony capitalism, corruption, monopoly power, and growing short-term debt.”

In order to advance the role of the state in a Pancasila economic system, the political process must find a way to address these shortcomings.

### **2.2.2 Advancing the Idea that Economic Man is Guided by Social and Religious Values**

The World Value Survey asks the question “How important is God in your Life” and provides two observations for Indonesia, one for 2001, three years after the East Asian crisis, and one for 2006, two years after the Tsunami. The survey reports that while in 2001 still 96.9% of the respondents answered the question with “very important,” only 85.2% considered God in their life “very important” in 2006. Despite this seeming downward trend in the importance of God, the level of religiosity in Indonesia is still very high compared to other countries.

A consensus on the influence of religiosity on the economic constitution is very important for a multi-religious society like Indonesia. For social peace, it is crucial that different religious concerns regarding economic affairs are granted not only coexisting rights; they also must experience mutual tolerance, respect, and cooperation. Public inter-faith dialogue on economic affairs is very important for this purpose.

In comparative religious economics, there seems to be a trend to emphasize the differences between Islamic and Christian-style economics and finance more than their similarities. Moreover, the West has been guilty of ignoring for too long the rich heritage of Islamic economic thought that had existed long before mainstream economics declared Adam Smith as the father of modern economics.

Islamic and Christian economic values are very similar. Both emphasize the need for balancing the principle of individual freedom with social solidarity. Before Adam Smith, Ibn Khaldun already argued that the state must subordinate itself to the individual when at the same time medieval scholastics still advocated the exact opposite. The legacy of economic freedom in Islamic philosophy is highly underrated in the West.

Although economic liberalism as a philosophy spread rather late in the West, the West was luckier than the Islamic world in that the period of enlightenment was not only an intellectual movement, but a societal reality. The Golden Age of Islam, during which already similar liberal ideas were articulated, on the other hand, ended several centuries earlier under foreign invasions.

The idea that economic man is guided by social and religious values is relevant to the principles of Islamic finance, but even more so to the design of social safety nets. Both Islam and Christianity see man as a social animal with a need and desire for living within a solidarity community. Both religions emphasize that solidarity is mainly help to self-help. In the Bible, 2 Thessalonians 3:10, it says, for example, that “[t]he one who is unwilling to work shall not eat.” Similarly, the Holy Quran is very specific about who is entitled to alms (zakat), namely the poor and the needy (Holy Quran 9:60). Islamic laws derived from the Holy Quran also clarify that zakat is not meant to be given to persons who act irresponsibly, contradicting Islamic values.

The incorporation of social and religious values into a Pancasila economic system must not only be concerned with the differences between Islamic and Christian finance, but also with the design of targeted social safety nets. Religious groups, for example, could play an important role in conveying the need for moving away from universal subsidies to more effective targeted social assistance programs. Eventually, socialists propagate atheism because they know that their paternalistic top-down approach to solidarity contradicts most religions’ bottom-up philosophy.

### **2.2.3. Advancing the Idea that Economic Development must be Equitable Social Development**

That economic development must be equitable social development is particularly relevant to Indonesia, which has faced rapidly rising inequality during the post-Suharto era. During the decade following the East Asian crisis, Indonesia’s GDP almost doubled. Inequality as measured by the Gini coefficient, however, also increased by more than 30 percent, from a low Gini value of 29 to a score above 38 (World Bank, 2013).

Generally, it is not uncommon that after a major structural break, income inequality increases. It has been a particularly drastic experience after the collapse of socialism in Central and Eastern Europe.

But what is the source of rising inequality in Indonesia? Although a definite answer is not possible, economic theory and available data suggests that changes in Indonesia’s economic profile matter. This profile is a hybrid of a natural resources-extracting rentier state and a productive manufacturing and services generating power house. Natural resources driven economies are more conducive to income inequality than economies employing human and physical capital. Generally, the greater is the demand for productive human and social capital within a society, the more opportunities for spreading a country’s income equally exist.

Indonesia’s development during the 1970s and 1980s was largely driven by an expansion of manufacturing and services exports. Prior to the East Asian crisis, the value added of manufacturing and services exports to GDP increased steadily while the share of natural resources exports continuously fell. The share of manufacturing and services exports of GDP was less than one percent in 1980 and increased to 12.4% in 1993, from where it slightly fell until the outbreak of the crisis. And while the majority of the economic debris of the crisis was removed by 2005 when real GDP per capita reached again pre-crisis levels and the value added of manufactures and services exports to GDP climbed to almost 20%, this value added fell again to below ten percent in 2011. Since the decline in manufacturing and services exports was not compensated by more exports in natural resources, economic growth was largely driven by investment, whose share increased from 25% in 2005 to 35% in 2011. This investment, however, did not trigger economic activity that would have helped prevent the increase in income inequality. Since an expansion of investment activity typically increases the incomes of only a few and a widening of manufacturing and services export activity the incomes of many, the rise of investment activity and decline of manufacturing and services exports may explain the increase in inequality.

That economic development must be equitable social development is often attributed to insufficient redistribution. This has been a particular popular assumption among socialist thinkers, and it has likely influenced Sukarno, too. Suharto's New Order was characterized by the notion that equitable social development would inevitably result from economic reforms and economic growth. And in fact, inequality did not substantially increase under Suharto. However, as the Suharto era ended with a major economic disaster, whose aftermath was characterized by fast rising inequality, the seed of more inequality must have been sowed under Suharto, but began to blossom only after the crisis. Economic conglomeration under the New Order may have been this seed.

It is important to note that equitable social development is not so much a question of redistribution and the availability of social safety nets, but the creation of a competitive division of labor built upon equal opportunities. Competition policy and public investments in social mobility like education, public health, and public infrastructure, which are typically goods and services that markets fail to provide, are necessary to initiate equitable social development. A renewed discussion on a Pancasila economic framework should therefore take stock of how the supply side of the economy contributes to inequality, not only how policies of income redistribution could ameliorate it.

#### **2.2.4. Advancing the Idea of Building a Strong National Economy**

What constitutes a strong national economy has undergone different interpretations. In post-colonial Indonesia under Sukarno and many other countries after independence, economic strength was equated with self-sufficiency. Under Suharto, economic strength was linked to export led growth and the attraction of foreign direct investment. However, the East Asian crisis has revealed that these two factors can become a dangerous cocktail, especially when the economic performance no longer anymore lives up to the profit expectations of international investors.

Economic strength means in particular economic resilience to economic shocks in a globalized and interdependent world economy. Adherence to sound principles of economic policy will be necessary to build this resilience. Such principles are, among many others: The separation of government from special interest groups, an effective competition policy, a monetary policy strictly following the objective of price stability, public investments into social mobility, and effective targeted social safety nets.

#### **2.2.5 Advancing the Idea of Balancing Centralization and Decentralization**

Early development theories emphasized the importance of a strong economic planner state and many developing countries gladly responded to this idea with a politically highly centralized government. Unfortunately, this has often led to the over-centralization of government and the under-performance of economic development.

Largely as a result of the loss of credibility of centralized power following the East Asian crisis, the post-Suharto era has seen a move towards greater political decentralization. Economic bankruptcy has always been the most effective facilitator of economic change. But economic bankruptcy is not necessarily the best mediator for balancing centralization and decentralization. Decentralization as a result of economic collapse is typically motivated by strategies to avoid burden-sharing of these short-term costs of cleaning up the economic mess. Ideally, however, decentralization should be motivated by the long term benefits of organizing a nation state in line with the subsidiarity principle.

For a Pancasila economic constitution to advance the division of labor between centralization and decentralization, the existing constitutional arrangements should be reviewed and reassessed. Such a political process, however, requires strong public support for cooperation and compromise, which, in turn, depends on a strong democratic culture. These prerequisites have never been as favorable as today.

### III. CONCLUSION

While initially conceived by Sukarno, Pancasila was eventually to be the vehicle through which both Sukarno and Suharto consolidated their own power in the Indonesian state. Since then, there has been a very real stigmatism attached to the Pancasila ideology, resulting in the overall neglect of it in the post-Suharto era. As Pancasila is primarily a normative mission or vision statement for the Indonesian state, the real development in Indonesia is the increasing deviation from this mission statement and a lack of credibility for the Indonesian state. This deviation began under Sukarno who neglected the economic aspects of Pancasila to such an extent that not only was the economy left in shambles, but the state lost economic credibility. Under Suharto, who co-opted Pancasila for political traction, the state lost political credibility. The real danger then becomes if these issues go unaddressed, the state risks losing all credibility. While Sukarno used Pancasila as a means to defend socialism, Suharto manipulated Pancasila as a means to keep political Islam at a distance. The overall ambiguity of Pancasila has allowed for political leaders to use and abuse it to consolidate their own power. Partisan appropriations of Pancasila ideology has been a mechanism for autocracy in Indonesia in the 20<sup>th</sup> century.

Still under Sukarno though, the high ideals of Pancasila were abused to defend greater centralization. Suharto sold the New Order also in line with the Pancasila value system. For more than five decades, Pancasila had therefore not been subject to bottom-up political dialogue, but top-down political interpretation. Pancasila became politically stained and a political phantom whose normative value system the majority of Indonesians praises, but politicians are now afraid to discuss with respect to its incorporation in public policy.

This is a dangerous development. First, if all agree on the value system of Pancasila but there is no political leadership on what it means in political practice, politics loses its credibility, which in turn paves the way for alternative ideologies. These alternatives could range from political Islam to greater regional break-away dynamics. Second, not having a democratic discussion on specifying Pancasila economics and economic policy more precisely is a missed opportunity to legitimize an overhaul of existing political processes, which, despite Indonesia's huge success, also suffers from governance imperfections. Third, politicians may be blinded by Indonesia's impressive economic growth record and therefore overlook the fact that while the economy looks strong, its economic wealth is increasingly unequally distributed. A discussion about Pancasila could therefore save Indonesia from a socio-economically explosive cocktail. Eventually, most uprisings occur not when all citizens are equally poor off, but under fast, inequitable growth.

While both the Old and New Orders attempted to incorporate Pancasila into their regimes, they both effectively crushed its potential. Pancasila as a normative mission statement in the Indonesian state has tremendous potential to increase economic and social development. However, the fact of the matter remains that Pancasila has not achieved its objective; there has been no delivery on promises made. From a political perspective, Pancasila principles are not unique concerns that have not been or would not be raised by other multicultural states. However, Pancasila could be made unique to the Indonesian case by coming to a consensus on what the principles of Pancasila truly mean for Indonesia. Since its inception, Pancasila has remained a normative vision statement with no handbook, no blueprint on how to achieve the objectives it sets forth for the state. Indonesia is now at a unique point where reevaluating and promoting discourse on Pancasila could serve to facilitate its re-actualization in a truly democratic Indonesia.

A practical policy recommendation to re-launch the discussion of Pancasila in public and political life could be to form an expert commission consisting of representatives from religious groups, political parties, academics, civil society, and the arts. This commission will be tasked with formulating the including groups' various expectations towards a Pancasila economic constitution. The commission is expected to develop policy recommendations independent of past Pancasila-related intra-societal conflict. Additionally, it should be made clear that any resulting policy



recommendations are by default non-binding, but should guide political and public discourse towards the formulation of a potential Pancasila economic constitution. This constitution should consist of general rules. Such general rules could be: The Pancasila Economic Constitution (1) recognizes the rightful coexistence of Islamic and Non-Islamic Finance; (2) prescribes subsidiarity as the guiding principle for the assignment of centralized and decentralized political authorities; (3) safeguards a competitive division of labor through markets; (4) protects consumers from the abuse of market power; and (5) shields the government from special interest groups. These are, of course, just examples, which seem to be plausibly in line with Mubarto and Boediono's original intentions. More important than any specific recommendations, however, is the fact that a bottom-up discussion is initiated. The general spirit is that renewed public discourse will remove the roadblock catapulted from the past, effectively paving the way for economic development guided by Pancasila.

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## **THE HOUSING SUPPLY ELASTICITY AND ITS DETERMINANTS: EVIDENCE FROM CHINA<sup>1</sup>**

Ping GAO<sup>2</sup>

### **Abstract**

Using panel data for 35 cities in China from 1992 to 2009, this article estimates the flow model and the stock adjustment model based on the work by Malpezzi and Maclennan (2001). The flow model represents an implied housing supply elasticity varying from -0.004 to 0.819. In contrast, the stock adjustment model yields a slightly lower estimation ranging from -0.002 to 0.419. A further examination of the determinants of housing supply elasticity suggests that housing supply is not only significantly influenced by housing prices, but also by land-use regulations as well as the lagged housing stock.

**Keywords:** Housing supply elasticity, housing stock, land regulations  
**JEL Classifications:** R31

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## I. INTRODUCTION

Housing constructions play a critical role not only in economic development, but also in affecting the household welfare. Given the importance of housing constructions, additional efforts in this field are thus justified. The vital importance of housing supply for market analysis and policy making has been stressed several times. For example, as Malpezzi and Maclennan (2001) argued, ‘...most housing models and policy analysis hinge on explicit or implicit estimates of the price elasticity of housing supply, does the market respond to demand side shocks with more supply or higher prices?’ In fact, the Chinese housing market has experienced rapid growth since the housing system reform, which was implemented in 1998. As a result, the demand of housing was enormously stimulated. Afterwards, housing prices jumped from 1,854 RMB (the Chinese Yuan) per square meter in the year 1998 to 4,725 RMB per square meter in 2010 (with an average annual growth rate of nearly 12%), and caused a genuine concern in recent years. Consequently, a series of regulations have been implemented by the Chinese government to intervene in the housing market and to avoid overheating and possible bubbles. The interventions include interest rates adjustments, reducing and exempting real estate taxes and fees, and reducing land rents. An evaluation on pros and cons of policies requires a thorough understanding of both sides of housing demand and housing supply. However, while there are already extensive studies, which focus on the housing demand, few attentions have been paid to the housing supply.

This article focuses on the supply side. The reduced-form approach is used to estimate housing supply elasticity. It also examines the housing supply determinants in the Chinese housing market. Several questions will be explored. First, how elastic is housing supply in China? Second, do the flow model and the stock-adjustment model report the same housing supply elasticity? Finally, does land regulation play a crucial role in affecting housing supply elasticity?

The following section summarizes the existing literature. Section 3 discusses the methodology. Section 4 shows the estimated results. The final section discusses the main findings.

## II. LITERATURE REVIEW

A comprehensive review of the previous studies can be found in DiPasquale (1999), who provides an excellent summary of the issues on the supply of housing. However, this study discusses current studies on the latest developments in economics of housing supply. It pays particular attention to the most-recent studies, which focus on the supply of housing in China. In particular, its main focus is on the following disquieting issues. What is known concerning the approaches of housing supply research? What is the appropriate functional form for housing supply equations? What is known concerning determinants of housing supply? What appear to be the major determinants of the estimated housing supply elasticity in the previous studies?

One of the major continuing questions concerning housing supply is just how sensitive supply is to changes in prices. A perfectly elastic housing supply is supported by the earlier studies of Muth (1960), Follain (1979) and Stover (1986). Muth (1960) is generally cited as the first empirical research on the relationship between housing prices and housing supply. Using a regression model and the national data, he attempts to examine the relationship between new housing outputs and housing prices in the United States, but finds no statistically significant relationship. Alternatively, Follain (1979) applies Muth’s model to a longer and more recent period

with full consideration of serial correlation or the possibility of simultaneity bias between prices and quantity of new constructions. He got a similar finding to Muth (1960). Afterwards, Stover (1986) and Olsen (1987) present a compelling argument on the method and data used in Follain (1979) and Muth (1960). Stover stresses that there might be aggregation bias existed when national data is used and consequently, and estimates price elasticity using cross-section data from 61 metropolitan areas of the United States. However, he still does not find any significant relationships between new housing supply and housing price. The result can be treated as evidence to support a perfect elasticity housing supply in the United States. Further, Olson (1987) points out that there might be some misspecifications in Muth's (1960) and Follain's (1979) studies. He argues that if the relationship between housing price and input costs (capital cost, land cost, and labor cost) is correctly specified, then the coefficient on quantity is zero regardless of the elasticity of supply. As a result, the supply function with price as the dependent variable should have either input costs or housing output on the right-hand side, but not both. Since the goal of the analysis is to examine the relationship between long-run supply price and housing construction, input costs should not be included in their estimation. Input costs mean capital costs, construction costs, land costs and labor costs. Generally, input's costs fluctuate under the regulation of the government. Unfortunately, he fails to provide empirical evidence. In general, most of the above researches use a reduced-form model to examine the relationship between housing supply and housing price. The price elasticity of housing is derived from the coefficients on supply and demand shifters in the reduced form regression. Although various approaches have been utilized in previous studies, the reduced-form model is frequently employed. Two recent studies by Mayo and Sheppard (1996) and Malpezzi and MacLennan (2001) also apply such approaches to comparative studies between countries.

However, one unusual characteristic of housing supply is that the short to medium supply curve for housing embeds a fundamental asymmetry and can be probably best be viewed as kinked. When housing demand falls, the market cannot easily adjust the supply of housing downward because housing is so durable. On the other hand, under absent constraints on land supply, the market should be able to absorb increases in demand. Of course, it has been the case recently that the strong national market for new construction has led to material and labor shortages that have, in turn, driven up prices of materials and labor. This suggests that housing supply is not perfectly elastic in the face of increased demand, at least in the short run. Furthermore, due to a long construction period and the relatively small effect of annual construction on the total stock of housing, housing supply responds on partially to cyclical movement in demand (Arnott, 1987). Unlike the earlier studies, Poterba (1984), Topel and Rosen (1988), and Dipasquale and Wheaton (1994) employ the structural approach to estimate housing supply elasticity directly and finally provide evidence to support a less than perfectly elastic housing supply. In an effort to make a good comparison, later research by Blackely (1999) estimates the alternative models mentioned above using the annual aggregate data with a longer time span from the United States.

On the other hand, the urban growth model takes full consideration of the role of land, which is superior to other models based on investment theory. Capozza and Helsley (1989) originally develop a simple model in which capital is durable and landowners have perfect foresights, and show that land price has four additive components: the value of agricultural land rent, the cost of conversion, the value of accessibility, and the value of expected future rent increases. As an extension of Capozza and Helsely (1989), Mayer and Somerville (2000) develop an urban growth model to estimate housing supply in the U.S. using the data from the year 1976 to

1987. Furthermore, they argue that new construction should be a function of changes in housing prices and construction costs rather than their levels. Their estimates suggest a fairly moderate response of supply to house price changes. The results reveal that a 10% rise in real house prices leads to a 0.8% increase in the housing stock. Green et al. (2005) estimate separate supply elasticity for 45 metropolitan areas of the United States following a model based on a theory of urban form suggested by the work of Capozza and Helsley (1989), and Mayer and Somerville (2000). They find housing supply elasticity to vary substantially from place to place due to different degrees of regulations. Table 1 shows the estimated results of previous studies on housing supply elasticity.

Table 1. A wide Range of the Estimated Housing Supply Elasticity

Argument	Studies	Study area	Data used	Estimates
I. Perfectly elastic housing supply	Muth (1960), Follain (1979)	The United States	National level time-series data	Infinite
	Stover (1986)	The United States	Cross-sectional data	Infinite
II. Less perfectly elastic housing supply	Poterba (1984)	The United States	Quarterly time-series data for 1964:1-1982:2	0.5-2.3 for new construction; -0.9-1.8
	Topel and Rosen (1988)	The United States	Quarterly time-series data for 1963:1-1983:4	1.2-1.4 (myopic); 1.7-2.8 (cost adjustment)
	DiPasquale and Wheaton (1990)	The United States	Aggregate annual data for 1963-1990	1.0-1.2
Comparative studies across countries	Mayo and Sheppard (1996)	Malaysia, Thailand, Korea and the U.S.	Annual time-series data for 1970-1986	Malaysia: 0.0-0.35; Thailand: infinite; Korea: 0.0-0.17; the U.S.: 12.59-19.88
	Malpazzi and MacLennan (2001)	The United States and the United Kingdom	Annual time-series data for 1985-1995 for the U.K. while 1889-1994 for the U.S.	The United States: 4.0-13; the United Kingdom: 0-6.0

Source: summarized by the author.

Meanwhile, a large body of literature explores the determinants in affecting housing supply elasticity. As a durable good, the supply of housing is determined not only by decisions of new construction developers, but also by the decisions of existing home owners. In addition, there are

two sources to increase housing availability: construction and renovation or repair of existing housing. Since data on the latter are not available, most existing studies only focus on new construction. Figure 1 illustrates the key factors and their inter-relationships in the housing market. An increase in population as well as households' income generally gives rise to increase in the housing demand. Meanwhile, housing supply is basically affected by housing prices, housing stock, and input costs. The government regulates housing market mainly through adjusting interest rates and controlling land supply for construction use to affect housing supply in order to eventually stabilize housing prices. The effect of these regulations on housing supply depends on the response of housing developers.

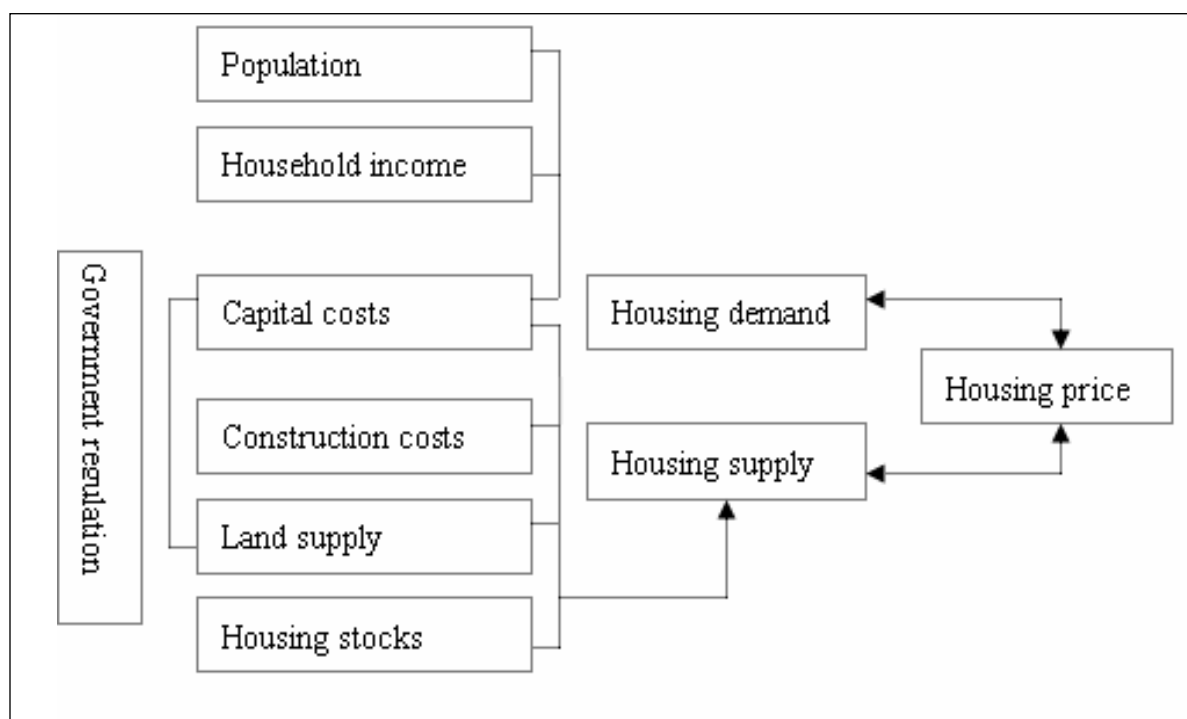


Figure 1. The Key Factor in the Housing Market

Table 2 reports the previous studies on the estimated coefficient of explanatory variables such as construction costs, the housing stock and the vacancy rate. Most of them report a positive sign for the real interest rate and a negative sign for the vacancy rate, while there is no agreement on the coefficients of construction costs and the housing stocks.

Table 2. Alternative Explanatory Variables for Housing Supply Elasticity

Explanatory variables	Estimates of Coefficient signs	Studies
Real interest rates	Nine papers: “-” Only one paper: “Not significant”	Follain (1979); Topel and Rosen (1988); DiPasquale and Wheaton (1994); Mayer and Somerville (2000); Hwang and Quigley (2006)
Construction costs	Five papers: “-”; Five papers: “+”;	Follain (1979); DiPasquale and Wheaton (1994); Somerville (1999); Mayer and



	Two papers: “Not significant”	Somerville (2000);
Stock of housing	Only one paper: “+”; Two papers: “-”; Four papers: “Not significant”	Muth (1960); Follain (1979); DiPasquale and Wheaton (1994); Blackley (1999); Mayer and Somerville (2000)
Vacancy rate	Four papers: “-”; Only one paper: “Not significant”	de-Leeuw and Ekanem (1971); DiPasquale and Wheaton (1992); Quigley (1999)

Note: Summarized by the author.

An overview of the existing studies focus on the Chinese housing market reveals that most researchers concentrate on the housing demand, while they overlook the housing supply. Using data for 35 cities, Gao and Wang (2008) investigate the elasticity of housing demand. They find an inelastic housing demand in China, and their finding also suggests a significant regional difference in housing demand elasticity across cities. Similarly, Chow and Niu (2010) estimate the housing demand elasticity using time-series data for years of 1987-2006. They report that the income elasticity of housing demand is 0.904, while the price elasticity of supply is 0.831. More recent work by Wang et al. (2012) make several improvements in exploring the housing supply elasticity and its determinants in China. Using the data for 35 cities from the year 1998 to 2009, they find a less elastic housing supply. They use an indicator of the developable land ratio to measure land-use regulations in each city. The results suggest that there is a significant relationship between the availability of developable land and housing supply elasticity. Further, the results indicate that geographical constraint, the average built-up area, the rate of population growth and regulatory restrictions on land use matter in determining housing supply elasticity. Especially, as there are no published data on housing stock in China, their study measures housing stock by per-capita floor area multiplied by the urban population in 1999. Their results may be better convinced if they employed a more precise measure of the housing stock. Alternatively, Fu et al. (2011) explain housing supply elasticity across the Chinese cities, and obtain several interesting findings. Their results show the supply elasticity increases with fixed investments and urban area expansion in a city. Although, holding investment and urban area expansion constant, the supply elasticity is independent of urban size and density.

This article extends the existing literature in several ways: 1) an update panel data for 35 cities from the year 1999 to 2010 is used to avoid the aggregation bias of employing aggregated time-series data, 2) both the flow model and stock-adjustment model is used to examine, and 3) it incorporates the impact of land-use regulation into the model.

### III. RESEARCH METHOD

Our analysis follows the work by Malpezzi and Maclennan (2001). As they criticized, the Muth-Follain test cannot differentiate between perfectly elastic and perfectly inelastic. Based on their work, this study first conducts its analysis to explain sources of the housing supply elasticity considering the effect of land regulation on developing new constructions.

### 3.1. Price Elasticity of Housing Supply

A flow model of housing market consists of the following three equations:

$$\ln Q_d = \alpha^d + \varepsilon_y^d \cdot \ln Y + \varepsilon_p^d \cdot \ln P + \varepsilon_D^d \cdot \ln D \quad (1)$$

$$\ln Q_s = \alpha^s + \varepsilon_p^s \cdot \ln P \quad (2)$$

$$\ln Q_d = \ln Q_s \quad (3)$$

where the parameters of  $\varepsilon_y^d$  and  $\varepsilon_p^d$  is the income and price elasticity of demand for housing respectively, and  $\varepsilon_p^s$  is the price elasticity of supply for housing. In equation (1) housing demand,  $Q_d$ , is treated as a function of household income (  $Y$  ), housing price (  $P$  ), and number of population (  $D$  ). In equation (2) housing supply (  $Q_s$  ), is assumed to be determined by the housing price only. Hence, combining the three equations yields a reduced-form equation, which can be described as follows:

$$\ln P = \pi_0 + \pi_1 \ln Y + \pi_2 \ln D + \varepsilon, \quad (4)$$

where the parameter  $\pi_1$  is given by:

$$\pi_1 = \frac{\varepsilon_y^d}{\varepsilon_p^s - \varepsilon_p^d}. \quad (5)$$

Thus, the price elasticity of housing supply can be estimated by:

$$\varepsilon_p^s = \varepsilon_p^d + \frac{\varepsilon_y^d}{\pi_1}. \quad (6)$$

To begin with, we discuss briefly the relationship between these parameters. The equation (6) implies that if  $\varepsilon_y^d$  equals to 0, the price elasticity of housing supply will equal to the price elasticity of housing demand on condition that,  $\pi_1 \neq 0$ . Otherwise, if  $\pi_1 = 0$ , the price elasticity of housing supply must be infinite. Given the value of  $\pi_1$  obtained by estimating the equation (4), and a range of assumptions about  $\varepsilon_p^d$  and  $\varepsilon_y^d$ , we can calculate the value of  $\varepsilon_p^s$ . Then the regression coefficient  $\pi_1$  will be transformed into the price elasticity of supply  $\varepsilon_p^s$  (for given value of  $\varepsilon_p^d$  and  $\varepsilon_y^d$ ).

Following the work by Malpezzi and Maclennan (2001), this study also applies the stock adjustment model

$$\ln Q_d = d (\ln K_t^* - \ln K_{t-1}), \quad (7)$$

where  $d$  is a parameter indicating the portion of the gap closed in period  $t$  and ranges from 0 to 1, and  $K_{t-1}$  is the actual stock in period  $t-1$ .

$K^*$ , the equilibrium demand for housing stock, which is determined by

$$\ln K^* = \beta_0 + \beta_1 \ln P_t + \beta_2 \ln Y_t + \beta_3 \ln D_t. \quad (8)$$

Combining the equation (7) and (8) to solve for the housing price (  $P$  ), which leads to the equation (9). The demand function is

$$\ln P_t = \pi_0 + \pi_1 \ln Y_t + \pi_2 \ln D_t + \pi_3 \ln K_{t-1} + \varepsilon, \quad (9)$$

hereby, the price elasticity of housing can be obtained from

$$\varepsilon_p^s = d\varepsilon_p^d + \frac{d\varepsilon_y^d}{\pi_1}. \quad (10)$$

Following Muth (1960) and Malpazzi and Maclellann (2001), we use 0.3 and 0.6 as an estimation of parameter  $d$ .

### 3.2. Housing Supply Determinants

The quantity of housing that developers provide is sensitive to price and cost, and depends also on available land for construction. Follain (1979) points out that the purchasing price of a new house essentially consists of two components, the price of the structure and the price of the land. Studies by Peng and Wheaton (1994) and Wang et al. (2012) suggest that there is a positive relationship between land supply and housing supply in Hong Kong and on the Chinese mainland cities. Moreover, the finding of Wang et al. (2009) indicates that an increase in land price has little influence on housing supply, while the land supply increase is an effective stimulator to housing supply. This study performs a cross-sectional regression, where housing construction is a dependent variable. The existing studies present two alternative measures for housing construction. One is the real value of residential construction, and the other is either starts or completions. This study measures housing output by new completions. By including dependent variables of housing price, housing stock, demographic characteristics and land variable, this study attempts to explore the determinants of housing supply elasticity using an improved measure of the housing stock and land regulations.

## IV. ANALYSIS AND DISCUSSION

### 4.1. Data

Data for estimation come from the 35 Chinese cities in the period of 1999 to 2010. The total sample size is 420. The descriptive statistics for variables of empirical analysis are given in Table 3.

Table 3. Statistics of Housing Price and Independent Variables

Variable	Definition	Mean	Min.	Max.	Std. Dev	Obs.
$P$	Housing price (RMB/sq.m)	3,568.2	1,077.0	18,954.0	2,562.3	420
$Y$	Annual per capita disposable household income (RMB)	12,947.4	4,764.9	32,380.9	6,092.1	420
$D$	Non-agricultural population (10 000)	280.9	1.0	1,192.2	227.8	420
$K$	Housing stock (10 000 sq.m)	6,698.3	980.0	35,377.7	5,877.5	420

$Q$	Housing completion (10 000 sq.m)	526.7	19.9	3,380.1	522.0	420
$LP$	Land price(RMB/sq.m)	3,639.7	345.0	22,827.0	4,282.6	385
$LS$	Land purchased by developers in one year (10 000 sq.m)	397.0	2,092.5	13.9	358.0	385

*Source:* China Statistical Yearbook, 2010; China City Statistical Yearbook, 2000-2010; China land price information dynamic publishing platform.

*Note:* Data on land price and land supply are only available for 2000-2010.

Unlike the studies on developed countries, the data time period of this study is limited because the Chinese housing commercialization system was merely implemented in 1998. Especially, data on housing stock are only available for 1999. Using the data for 1999 as a benchmark, this study obtains its own time series of housing stock. In Kuang and Zhou (2010) and Wang et al. (2012) housing stock is estimated by per-capita floor area multiplied by the number of population. Alternatively, Chow and Niu (2010) use the indicator per capita floor area separately to measure housing stock. This study measures the movement of housing price using the average sales price of residential buildings. Household income is measured by per capita annual disposable income of urban households. The data mainly come from the Statistical Yearbook for each city. Data on population are the number of non-agricultural population. Most of the above data come from the China Statistical Yearbook released by the National Statistical Bureau of China (NBS). In addition, our study uses two instrumental measures of land regulation, land price and land space purchased by the developers. The data on land price are the land dynamic monitoring system data released by the Chinese land price information dynamic publishing platform.

#### 4.2 Estimated Price Elasticity of Housing Supply

This study conducted regressions based on the equation (4) and (9), and obtained the estimated coefficients on income elasticity of demand,  $\pi_1$ . Hence, given the estimated of price elasticity of demand,  $\varepsilon_p^d$ , and the income elasticity of demand,  $\varepsilon_y^d$ , the implied price elasticity of housing supply can be finally obtained. Table 4 represents the regression results.

Table 4. Estimation Results for Income Elasticity of Housing Supply

Variable	Case 1	Case 2	Case 3	Case 4
$\log Y$	1.061*** (0.026)	1.088*** (0.057)	0.900*** (0.038)	0.951*** (0.077)
$\log D$	0.024 (0.033)	0.006 (0.031)	-0.009 (0.035)	-0.007 (0.032)
$\log K_{t-1}$			0.227*** (0.039)	0.209*** (0.073)

AR(1)		0.765***		0.737***
		(0.032)		(0.037)
Constant	-2.056***	-2.232	-2.302	-2.650***
	(0.168)	(0.539)	(0.191)	(0.561)
$R^2$	0.79	0.947	0.805	0.922
DW	0.696	1.998	0.727	2.036
Observations	420	385	385	350

*Note:* The dependent variable is housing price in logarithm. Standard errors are in parenthesis. \* indicates significant at 10% level, \*\* indicates significance at 5% level, and \*\*\* indicates significance at 1% level.

The dependent variable is housing price in natural logarithm, while the independent variables include household income, population and the lagged housing stock. The first two cases are the estimation for the flow model, while Case 3 and Case 4 describe the estimated results for the adjusted stock model. Further, Case 1 and Case 3 is the direct estimation for equation (4) and (9) respectively. Case 2 and Case 4 are adjusted for autocorrelation by including an item of AR (1). As demonstrated in Table 4, the estimated coefficient on household income is significantly greater than zero in all cases indicating a less perfectly elastic housing supply in China. On the other hand, the coefficient on demographic characteristics measured by the non-agricultural population is not significant in all cases. A correction for autocorrelation makes little difference in coefficients of household income. Similar to other studies, the stock-adjusted model yields a slightly lower elasticity compared to the flow model.

To estimate the price elasticity of housing supply, this study uses the estimates of these two parameters on  $\varepsilon_p^d$  and  $\varepsilon_y^d$  as summarized by Malpezzi and Mayo (1987) and Malpezzi and Maclennan (2001). Using these estimated parameters, this study calculates the implied price elasticity of supply with a combination of the estimates of income elasticity and price elasticity of demand. Some representative calculations are reported in Table 5.

Table 5. Price Elasticity of Housing Supply

$\varepsilon_p^d : -0.1 \sim -0.5$  $\varepsilon_y^d : 0.5 \sim 1.0$	<b>Flow model</b>  <b>(<math>\pi_1 = 1.088</math>)</b>	<b>Stock-adjustment model</b>  <b>(<math>\pi_1 = 0.951</math>)</b>	
		<b><math>d = 0.3</math></b>	<b><math>d = 0.6</math></b>
$\varepsilon_p^d = -0.5, \varepsilon_y^d = 1.0$	0.419	0.126	0.251
$\varepsilon_p^d = -0.1, \varepsilon_y^d = 1.0$	0.819	0.246	0.491
$\varepsilon_p^d = -0.5, \varepsilon_y^d = 0.5$	-0.004	-0.001	-0.002

$\varepsilon_p^d = -0.1, \varepsilon_y^d = 0.5$	0.360	0.108	0.216
Malpezzi and Macleannan (2001)	US: 4.4~12.7 UK: 0.0~4.3	US: 1.2~2.8 UK: 0.0~0.3	US: 2.4~5.6 UK: 0.0~0.5

*Note:*  $\varepsilon_p^d$  is the price elasticity of demand;  $\varepsilon_y^d$  is the income elasticity of demand. The price elasticity of housing supply can be calculated by

$$\varepsilon_p^s = d \left( \varepsilon_p^d + \frac{\varepsilon_y^d}{\pi_1} \right).$$

As noted in Table 5, the implied price elasticity of supply, based on the estimated results of the flow, models fall in an interval between -0.004 to 0.819. In contrast, the stock adjustment elasticity is much lower ranging from -0.002 to 0.491. The similar approach was used in Malpezzi and Macleannan (2001), Mayo and Sheppard (1996). The former research chooses the value between -0.2 and -0.5 for price elasticity and the value between 0.5 and 1.0 for income elasticity. The latter one chooses the value between -0.1 and -0.5 for income elasticity and the same range as the former for price elasticity. Similarly, this study chooses the estimated price elasticity of demand between -0.1 and 0.5, so that the estimated income elasticity of demand is between 0.5 and 1.0. Moreover, the baseline of the adjustment parameters is 0.3 and 0.6. However, as Malpezzi and Macleannan (2001) argued, the estimated elasticity of housing supply we obtained is only a range.

Other studies obtained similar magnitude of housing supply elasticity represented by Chow and Niu (2010) and Fu et al. (2011). Using the yearly national data of China, the former one obtained a price elasticity of supply of 0.831, although their focus is on the demand elasticity. The latter calculates an elasticity of housing supply in cities of China varying from 0.62 to 1.46. In contrast, Wang et al. (2012) obtained an average elasticity ranging from 2.82 to 5.64, which is larger than our study and other studies. Their estimated housing supply elasticity was derived from the average estimated housing supply of the 35 cities. In general, most of the studies on the housing supply in China obtained a lower elasticity of supply.

### 4.3. The Alternative Determinants of Housing Supply

This study further conducts regressions on housing construction  $Q$ . As an independent variable,  $Q$  is measured by housing completions in the corresponding year. Independent variables include housing price ( $P$ ), lagged housing stock ( $K_{-1}$ ), land price ( $LP$ ), and land supply ( $LS$ ). The regression result is as follow:

$$\log(Q) = -4.175 + 0.100 \log(P) - 0.271 \log(LP) + 0.241 \log(LS) - 2.075 \log(K_{-1})$$

$$S.E. = (0.374) \quad (0.056) \quad (0.071) \quad (0.022) \quad (0.295)$$

$$\text{Number of observations} = 385, R^2 = 0.821$$

This study obtained expected coefficients. The estimated coefficients on land price are significantly negative indicating that an increase in land price will enormously decrease the housing output. Meanwhile, an increase in land supplies associates with an increase in housing output. In addition, a significantly positive relationship between housing output and housing price was found using housing completions as a dependent variable. The result can be treated as evidence to reject the Muth-Follain test, which means that housing supply in China is less elastic. Although an ignorance of other inputs such as capital cost and labor cost may slightly reduce the explanatory

power, our specification can explain about 80 percent of the variation in housing output. Overall, the results are supportive of the importance of land-use regulations in affecting housing outputs.

## V. CONCLUSION

This study conducted regressions on new housing constructions using cross-sectional data for 35 cities during the period 1999-2010. The estimated results of both the flow model and the stock adjustment model are represented. The estimated results based on the flow model suggest that the elasticity of housing supply ranges from -0.004 to 0.819. But the stock adjustment model yielded a lower elasticity varying from -0.002 to 0.491. These findings reveal that housing supply in China is less elastic compared to developed countries. The lower estimated housing supply elasticity implies that developers in China cannot respond quickly by releasing more houses to a shock from the demand side. Moreover, the results of this study confirmed that land-use regulation has a significant effect on housing supply. Housing supply elasticity in China is not only determined by the housing price, but also influenced by land-use regulations as well as the lagged housing stock.

However, there are still several researchers, who argue that supply conditions of housing may vary from place to place even in the same country. Future work is required to investigate the housing supply variations across regions in China.

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## **GLOBAL INVESTMENT THRESHOLD AND LONG-TERM ECONOMIC GROWTH 1960S–2000S: POLITICAL ECONOMY PERSPECTIVE OF DEMAND REGIME**

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### **Abstract**

This paper aims to investigate the pattern of global investment that adequately promoted economic growth in the long-term during the 1960s to the 2000s. The structural linkage between gross capital formation (GCF) and gross domestic product (GDP) growth per capita generates global and regional patterns that show how capital accumulation promotes aggregate demand. This structural linkage particularly corresponds to the form of “demand regime”, which views a heterogeneous adequate threshold of investment for promoting an upswing of economic growth. One major hypothesis is that the threshold of investment is a 25 per cent share to GDP. Underlying the principles of political economy, this investigation uses Kaldor’s dynamic cumulative causation model to test the adequacy for this threshold at the global and among developing regions. The results show that the threshold does not often properly stimulate capital accumulation in demand regime. Therefore, there is a need to search for a critical approach to sustainable economic growth. As a point of departure, the political economy of demand regime provides an alternative perspective to the global investment threshold.

**Keywords:** investment, economic growth, political economy, demand regime  
**JEL Classifications:** B52, O43

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## A. INTRODUCTION

The primary requirement for propelling the structural linkage of demand and productivity within the dynamics of cumulative causation model is investment. Collating several literatures from Keynes (1939), Kaldor (1972, 1982), Dymski and Pollin (1994), Poitrass (2002), and O'Hara (2006), investment holds a core point as the determinant of economic growth. Capital accumulation, innovation, and structural change, experience powerful interplay of linkage, which generates the foundation for durable productivity growth, increasing living standards, and global markets.

In addition, investment creates productivity through innovation to provide exports in domestic and global markets. With the stabilization of world income, expanding export activities can provide steady demand. This indicates an enhancing rate of growth per capita as demand proxy. A higher rate of growth per capita indicates that demand can take form its decomposition to stimulate investment through reducing uncertainty; therefore, the rate of growth per capita as demand proxy can propel various levels of investment. Also, it indicates that demand requires sufficient levels of investment to provide sustainable economic growth. This can explain the fact that interrelationships of demand and investment that occur in the world, regions, nations, and sub-nations propel investment through the long-wave.

In analyzing the role of global investment and global demand in the long-wave, investment is explained by Gross Capital Formation (GCF). Some literatures emphasize gross capital formation that represents capital accumulation, which can propel investment. Karl Marx (1885) employed capital formation to clarify capital accumulation in the metamorphosis of capital, while Simon Kuznets (1939) explained capital accumulation in the United States from 1919 to 1933 through a series of gross capital formations.

In the global context, Alexander Gerschenkron (1954) argues that a differential characteristic of capital accumulation, resources allocation, and demographic patterns can influence economic development in a region and/or a country. Moreover, Gerschenkron argues that a region and/or a country that has delayed starting its development is affected by the structural change between investment and demand, which is represented by GDP.

Kuznets (1955) reveals that most regions and countries have a heterogeneous capital formation which can differentiate the process of financing development among them. Kuznets employed GCF as a share to GDP for investigating financing development among countries.

According to UNCTAD (2003), regions and nations need to consistently raise their investment share to a GDP far above 25 per cent in order to continue on the growth and development path. This threshold of investment share of GDP above 25 per cent is likely to determine investment performance in middle income developing countries. From those previous literatures, it is clear that the difference of capital accumulation, which is represented by GCF, can differentiate the rate of growth as demand proxy.

In the empirical evidences, there were many regional variations in the relationship between investment and demand. Figure 1 shows the pattern of linkages between investment and rate of growth per capita as demand proxy in the world and some regions. In general, the trend line has a positive slope which indicates that the rising rate of growth per capita is determined by increasing GCF. This pattern indicates that mutually reinforcing the rate of growth per capita and GCF occurred at different levels through the long-wave.

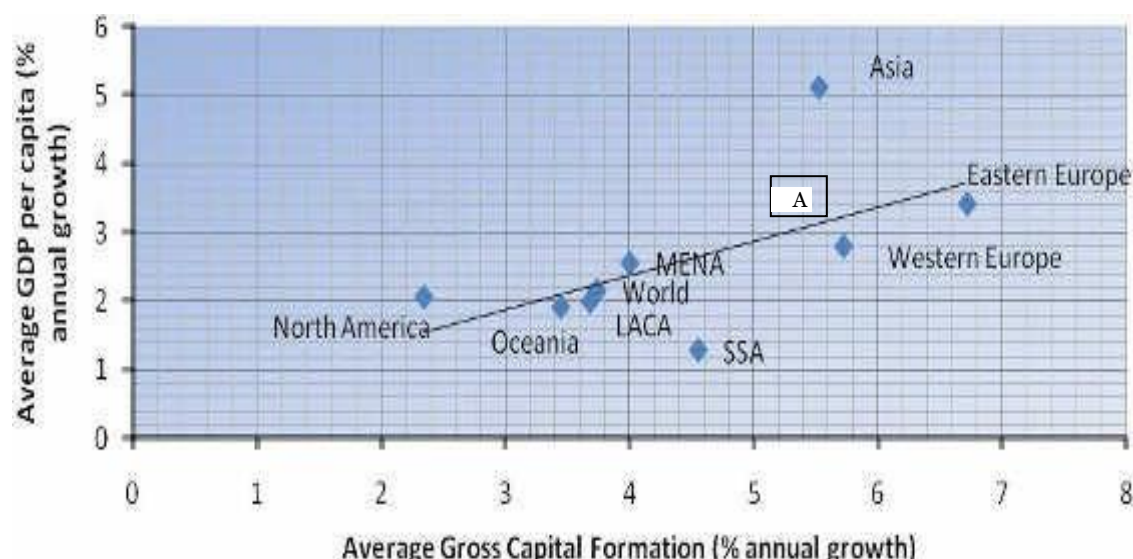


Figure 1. GDP per capita and Gross Capital Formation : World and Selected Regions, 1960s-2000s, (%), Period Annual Averages Growth

*Source:* GDP growth per capita 1960s-2000s were calculated using period annual averages based on World Bank (2010); Gross capital formation (% annual growth) 1960s-2000s were calculated using period annual averages based on World Bank (2010). *Note:* A = the trend line of linkage between gross capital formation (% annual growth) and GDP growth per capita; Regional aggregate data for World, Asia, LACA, MENA, SSA, and North America were calculated using simple averages based on regional data from World Bank. Regional aggregate data for Western Europe, Eastern Europe, and Oceania were calculated using weighted averages to generate regional data.

Particularly, during the 1960s to the 2000s, the world experienced a modest position on averages along the linkage of economic growth and investment. This illustrates that the change of rate of growth per capita, which is caused by the change of fixed assets and inventories in the world, seemed to decline from the 1960s to the 2000s. In the same period, the rapid rise in the Asian economy was closely linked with the sharply rising capital formation. The change in capital formation decomposition may provide an increasing change in the rate of growth. On the contrary, the change of capital formation in Sub-Saharan Africa (SSA) is unlikely to promote a rising change in the rate of growth.

## II. THEORETICAL FRAMEWORK AND RESEARCH METHOD: CORE GENERAL PRINCIPLE OF POLITICAL ECONOMY

### 2.1. Principles of Historical Specificity

Economic growth has become the core issue of economics and development. Economic growth is measured by the average annual rate of change of GDP per capita (Atkinson 2008). The discussion of the economic growth theory addresses the basic concept of economic growth, which is to explain the economy development pattern in the long-term. In the analysis of the long-term economy pattern, the economic growth theory emphasizes the role of investment growth and income distribution.

A discussion of economic growth theory begins with the classic theory of economic growth. The theory describes economic growth as the outcome of the capital accumulation process influenced by the distribution of industrial profits and rent. Income obtained from rent reduces

funds used for investment in the industrial sector. In Adam Smith's perspective, classical economic growth emphasizes the efficiency of production through the division of labor.

Karl Marx (1885) critiques the classic theory by analyzing the pattern of the profit rate. If the interest rate and rent increase, then the profit rate will decrease. In this process, the technological change, the wage rate, and the work force can also influence the profit rate (Dumenil and Levy 2002). Marx proposes the concept of the falling rate of profit, where the profit rate in the capitalist economy will show a decreasing pattern in the long-term, which will influence the economic growth rate.

After Marx's economic growth theory, the neoclassical growth theory emphasized equilibrium and optimal allocation to create economic growth. This theory assumes the constant return to scale in the production function and the diminishing marginal productivity of labor input in the short term (Solow 1956).

The development of the neoclassical growth theory has been critiqued by the post-Keynesian growth theory (Harrod 1939; Domar 1946). The post-Keynesian theory emphasizes the role of economic surplus, technological change, innovation, and demand. Market expansion, with a high wage and profit rate, encourages increasing returns to scale and productivity. If productivity increases, it will encourage export and also increase aggregate demand. The aggregate demand increase eases the capital accumulation process, thereby encouraging investment growth. Investment growth will encourage innovation and technological change. Consequently, if this circulation process runs simultaneously with time evolution, then it will produce the cumulative process of increasing economic growth.

The post-Keynesian growth theory has been further developed in the regulation approach. This approach is part of the post-Keynesian perspective, emphasizing that the productivity expansion process runs along the time evolution or the "productivity regime" (Lipietz 1997; Aglietta 2008). Furthermore, the regulation approach also notes a "demand regime" formed by the composition of aggregate demand, which is consumption expenditure, investment expenditure, government expenditure, and net-export.

## **2.2. Principle of Circular and Cumulative Causation**

This section seeks to discuss the principle of circular and cumulative causation (CCC) and its relation to uneven development. The CCC principle captures the structural linkages of multiple factors, which either rise or fall in certain periods. The performance of these factors affects the performance of the entire system (Kaldor 1957, 1972; O'Hara 2008a, 2010; Berger 2008c). CCC describes a relation between a change of an independent variable and a change of a dependent variable. The dependent variable changes in accordance with changes in the independent variable, in a similar direction. This answers the question of when a change in a variable causes a significant change in other variables in the socio-economic system. Therefore, a small change in the variables in the socio-economic system will experience magnification where there is an income divergence at the global, regional, state, and individual levels.

The CCC concept raises some questions and discussions on whether the CCC process occurs naturally or as a collective action. In answering such a question, discussion on CCC is directed toward the circularity aspect that becomes the core focus of the cumulative process. To illustrate, when a change in variable A causes a change in variable B, but variable B's change does not give feedback to variable A, this process maintains equilibrium in the system until variable A's change ends. Conversely, an effect is cumulative when feedback moves and experiences magnification in the original variable (McCombie and Roberts 2009; Berger 2009b). This process is an evolution that can generate positive and negative effects in the social economic system.

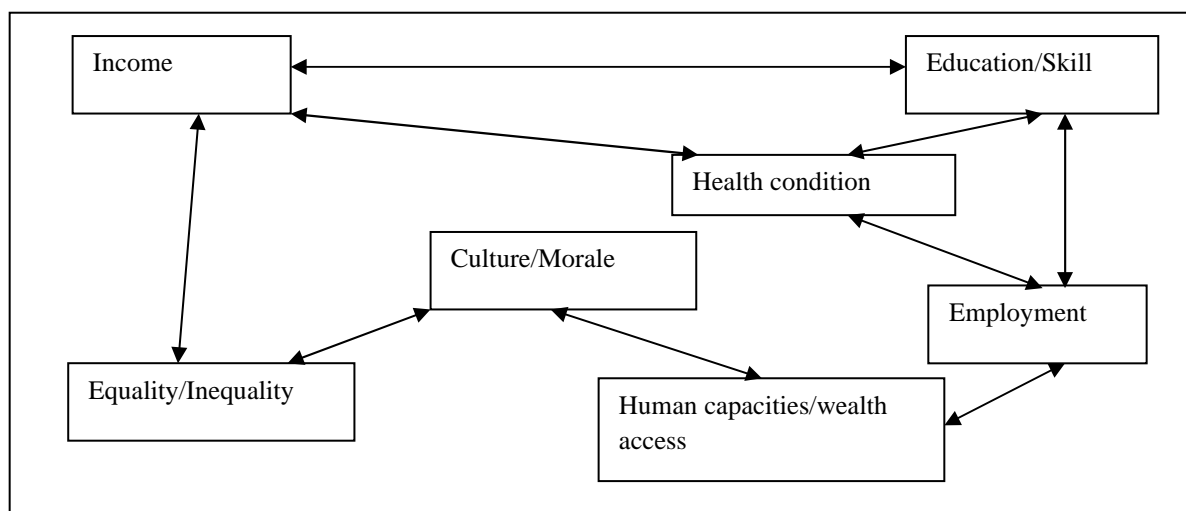
Some patterns of CCC processes that influence the growth process in the socio-economic system can include human capital formation, investments, export growth, effective demand, and productivity, as well as increasing returns and industrial location (Argyrous and Bambergy 2009).

The initial idea of including the CCC concept into the socio-economic analysis comes from Knut Wicksell's monetary theory (Schmid 2001). Wicksell explains that an initial incremental monetary supply experiences multiplier process to generate additional money supply. This multiplier process is defined as the form of cumulative causation, which can also occur in investment and income.

Wicksell's concept is developed by Gunnar Myrdal who expands the scope of CCC process analysis in the development of the socio-economic system. Myrdal (1944) investigated racial inequality in the United States. He argued that African-Americans have a low education level, more children, less economic assets, and are risk averse. These characteristics lower African-Americans' wage level, and they subsequently face difficulties in obtaining a decent educational level and savings access. The results support Myrdal's research in 1968; his analysis showed that low wage levels cause low nutrition and health. Accordingly, such a condition causes a low productivity level of the African-Americans, which often led to a low level of income.

Myrdal argues that access to a decent educational level would enable African-Americans to gain the opportunities to enable them to increase their living standard. The improved education level would increase the health, productivity, and income levels, and would decrease the social gap in society. This process is magnified when the education level is higher, and in turn, also develops health, productivity, and income. This concept becomes the model for developing and under-developing countries to view education as an aspect that brings about a positive cumulative impact on social and economic development.

However, Myrdal also observes that the circularity process between variables in the system could experience growth, stagnation, and even decreases (Myrdal 1944; McCombie and Roberts 2009; Berger 2009b). The circularity process can experience stagnation and obstruction when the element of counteracting forces is considerably dominant. To clarify, traditional aspects and inequality can obstruct the circularity process among education, health, productivity, and income. One of these traditional aspects is population increase as individuals have many children. Population increase influences the effect of increasing return to scale, preventing socio-economic growth. The model of Myrdal's CCC is displayed in Figure 2.

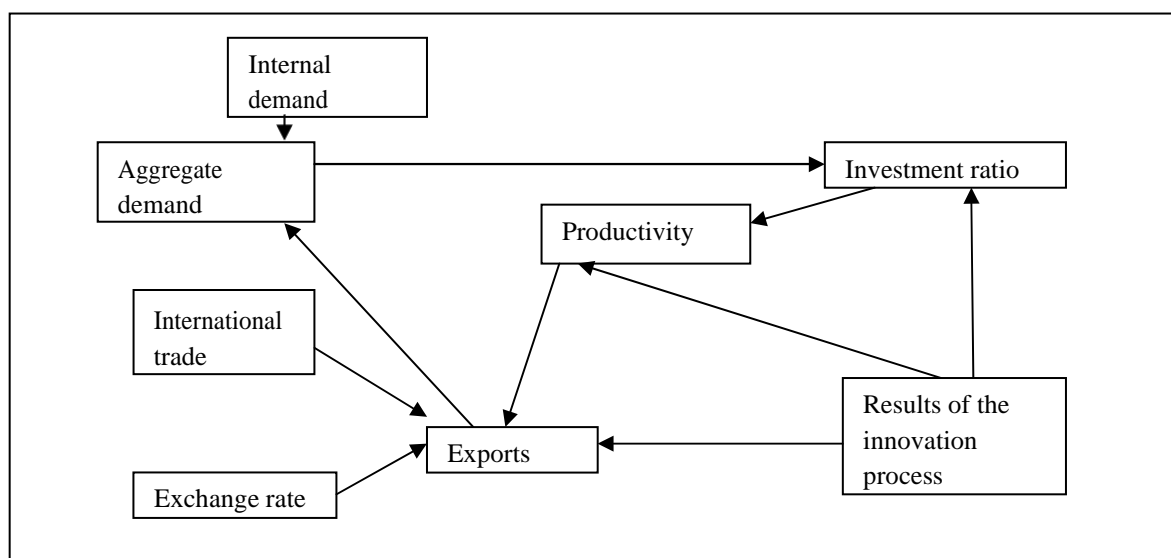


Source: Developed from Myrdal (1944, 1968), O'Hara (2007c), Berger (2009b) and Sen (2011).

Figure 2. Myrdal's Model of Circular and Cumulative Causation

Turning to economic factors, the effect of increasing return in one area of a country is to stimulate opportunities for circularity and growth (Argyrous and Bamberly 2009; Toner and Butler 2009). When the demand for output increases due to an elastic price, the producer can manage the production means at a low-cost production level. In this case, the low-cost level will increase

demand as well as decrease the production cost level (Ally Young 1928). This circularity process is supported by the increase of demand and market scale that is influenced by division of labor. Young (1928) argues that an area that produces goods with an elastic price will experience faster growth and not vice-versa. To illustrate this, a country that focuses on investment in a manufacturing industry will tend to have the opportunity to keep the circularity of economic variables that supports economic growth.



Source: Adapted from Pini 1995: p. 10.

Figure 3. Kaldor's Model of Circular and Cumulative Growth

As displayed in Figure 3, Nicholas Kaldor demonstrates the role of productivity in the manufacturing industry as a stimulus for economic growth. Kaldor emphasizes the export of manufacture industries by elaborating on Verdoorn's Law (Kaldor 1957; King 1994; McCombie and Roberts 2009). Kaldor explains that during its growth, output is related to labor productivity. Investment in the manufacturing industries increases their productivity in two ways: innovation and labor productivity. When industry productivity increases, exports increase. Export growth promotes national income increase. Countries that have potential export products are able to increase national income and expand products to increase economic scales. In this process, the increase of the economic scale reliably increases demand and investment.

The process of the economic scale's increase toward demand and investment can be explained by the effective demand concept (Pini 1995; Dutt 2001). Effective demand determines output and efficiency growth levels. It shows the feedback effect of effective demand on capital accumulation, investment, and consumption. When wage level increases and is followed by an increase in demand and investment, this condition determines efficiency growth, output, and wage level. This process is the CCC form as expounded by John Eatwell (1982), that the higher demand growth stimulates the productivity growth through price and non-price factors and creates feedback to increase demand growth simultaneously and continuously.

### III. ANALYSIS AND DISCUSSION

#### 3.1. The Pattern of Capital Formation During the 1960s to the 2000s

The discourse arises as to investigate the pattern of capital accumulation among regions and countries. In line with this observation, previous literatures from Kuznets (1955, 1961) put forward GCF as a share of GDP to explore capital accumulation among countries. As a proxy of

demand, proportion investment in GDP can indicate capital accumulation performance. During the long-wave upswing of 1950 to 1973, investment as a share of GDP tended to be higher than in the long-wave downswing of 1973 to 2010. This indicates that the process of capital accumulation is likely to be boosted during a long-wave upswing. Conversely, during a long-wave downswing, demand cannot provide capital accumulation through government expenditure and consumption.

Table 1 shows GCF as a share of GDP in the world and some regions. Relying on World Bank (2010), GCF as a share of GDP is formerly known as Gross Domestic Investment (GDI) as a share of GDP. As displayed in Table 5.2, GCF as a share of GDP in the world tended to be higher during 1950 to 1973 than it was during 1973 to 2010. In the same period, most of the regions also had similar patterns to the world. Asia experienced high-levels of investment shares between the 1950s and 1970s; then they declined between the 1980s and 2000s. With a similar pattern to the world, Latin American and Caribbean (LACA) and SSA still had an investment share below the world. In the core regions, investment shares decreased somewhat in Western Europe, North America, and Oceania between the 1950s and 1970s up to the period between the 1980s and 2000s. Meanwhile, Eastern Europe has fluctuation patterns though it experienced a slight increase in the 2000s.

Table 1. Gross Capital Formation as a Share of GDP, (%): World and Regions, 1940s-2000s, Period Annual Averages

	SSA	LACA	East Asia[South Asia]	MENA	Eastern Europe	Western Europe	Oceania	North America	World
1950-1973	n.a	21.64	33.25[15.40]	n.a.	n.a.	27.14	25.44	19.77	25.25
1973-2010	20.16	21.13	29.51[23.08]	24.58	24.46	22.60	22.80	19.16	22.78
1940s	na	11.3 <sup>a</sup>	n.a[n.a]	n.a.	n.a.	16.91 <sup>#</sup>	20.5 <sup>o</sup>	19.80 <sup>∞</sup>	18.35 <sup>δ</sup>
1950s	na	16.17 <sup>a</sup>	26.80 <sup>β</sup> [15.76 <sup>γ</sup> ]	n.a.	n.a.	23.23 <sup>*</sup>	26.7 <sup>o</sup>	26.65 <sup>∞</sup>	25.86 <sup>δ</sup>
1960s	19.40	20.20	33.20[15.10]	23.00	n.a.	27.10	25.95	27.56 <sup>μ</sup>	26.18
1970s	24.60	23.20	32.30[17.00]	25.20	n.a.	26.11	25.36	24.55	24.9
1980s	20.70	20.80	30.10[21.20]	24.90	29.43	23.02	24.68	23.46	23.2
1990s	17.50	20.4 <sup>o</sup>	30.40[22.80]	24.30	22.67	21.40	21.00	21.93	22.3
2000s	19.10	20.30	26.30[29.00]	23.00	24.11	21.20	21.81	23.01	21.4

Source: Data 1960s-2000s were calculated using period annual averages based on data from World Bank (2010); Data 1950s for East Asia were adapted from Wenkai, Geng and Xiuke (2009); Data for South Asia 1950s was adapted from Basu and Maertens (2007); Data 1940s-1950s for Western Europe, North America, Oceania and LACA was calculated from Kuznets (1955). Note:  $\beta$  = Japan for data 1950s;  $\mu$  = South Asia in the bracket, India for data 1950s;  $\#$  = United Kingdom, West Germany, Italy, Netherland, Norway, Sweden, Finland, Portugal for data 1940s;  $*$  = France, United Kingdom, West Germany, Italy, Netherland, Norway, Sweden, Finland, Portugal for data 1950s.  $o$  = Australia and New Zealand for data 1940s and 1950s, Australia and New Zealand for data 1960s and 2000s;  $\alpha$  = Chile and Mexico for data 1940s and Chile, Mexico, Honduras and Peru for 1950s;  $\infty$  = United States and Canada for data 1940s-2000s.  $\delta$  = Aggregate data for World 1940s and 1950s was calculated using weighted average from selected regions.  $\mu$  = Aggregate data for North America 1960s was calculated using weighted average from selected regions-United States and Canada. Data 1960s for the United States was calculated using period annual averages based on Wenkai, Geng and Xiuke (2009) and Canada was calculated using period annual averages based on World Bank (2010).

In the long-wave of economic growth during the 1960s to the 2000s, the capital formation experienced a heterogeneous pattern at differing levels. The strong complementarities between these two factors generated some significant evidences through the long-wave. Some major evidences can be identified as shock variables that are associated with the pattern of capital formation. Furthermore, those evidences can become stylized facts to examine capital formation in



the long-wave perspective. There are some crucial facts that are associated with the linkages of economic growth and investment between the 1960s and 2000s. Ben-David and Papell (1998) reveal that 54 of 74 countries included in their research have significant structural change, and 8 of 54 countries experienced a declining rate of growth. They also found some external factors which have caused these facts, including the collapse of Bretton Woods, rising oil prices, and debt crises. Similarly, Hausman, Pritchett and Rodrik (2005) also illustrate that 60 of 110 countries included in their research underwent declining growth acceleration. Several factors, including economic liberalization, political regime change, and external shocks, were put forward as origins of the downswing economic growth. Relying on those literatures, economic growth experiences structural changes accompanied by those factors and evidences.

In this case, the interplay of linkages between economic growth and investment was simultaneously affected by the structural change of global policies in the long-wave. The heterogeneous GCF as a share to GDP during the 1960s to the 2000s generated a pattern of capital accumulation that occurred among regions and countries. In the world, there was a slight increasing pattern in capital formation during the 1960s and 1970s, and then the decreasing pattern emerged in the 1980s as a period of debt crisis. This was the downswing in the 1980s. Indeed, during the 1970s, the collapse of Bretton Woods' system was accompanied by the re-emergence of international capital markets that increased the movement of international commercial banks. Moreover, in the same decade, global policy again underwent structural change while oil prices were quadrupled than in the previous decade.

In the same period, some LACA countries required external finance to provide their industries. In line with increasing flexible capital mobility, the activities of commercial banks directed private capital inflows to arrive in this region. This situation caused domestic capital leaving this region as capital outflows. Then, capital outflows affected productivity and export activities. Despite capital outflows, rising money supply caused demand pull inflation in some LACA countries. While the real exchange rate was kept to against inflation by most countries, it reshaped the interest rate to be negative in real terms.

With the worsening exchange rates, most LACA countries were difficult to service their foreign debts (Suter and Stamm 1992, Adelman 1998). A period of debt crises indicated that LACA were unlikely to promote capital accumulation. This is because financial instability and declining productivity affected aggregate demand. In particular some countries, like Argentina, Brazil, Mexico, and Venezuela, had debt to an export ratio over 60 per cent in the early 1980s (World Bank Debt Tables, 1992, 2009). As displayed in Figure 5.2, investment share to GDP in LACA continuously decreased between the 1970s and 2000s.

SSA experienced an increasing pattern in GCF as a share to GDP from the 1960s to the first half of the 1970s. Rising prices of mining and agriculture products stimulate productivity and the basis of exports during 1965 to 1975 (Alemayehu 2003). This situation was followed by increasing physical capital accumulation in some countries, such as Nigeria, Botswana, and Kenya. At the same time, capital inflows in the form of intermediary goods arrived in this region. Moreover, external financing was used by most countries in this region for providing mining industries and agriculture resources. On the global side, oil prices rose again in the second half of the 1970s which affected the balance of payment in many countries, including SSA. Thus, GCF in most of SSA countries emerged to decrease at the end of the 1970s.

Debt crises also became a crucial problem that could affect economic performance. For instance, Ghana, Zambia, and Kenya had a deficit balance of payment though their mining and agriculture prices rose in the second half of the 1970s (Eaton 1990, Alemayehu 2003). This is because international capital inflows came into domestic markets. Domestic resources then went away to core countries that reduced productivity and basis of exports. In particular, despite debt crises, most countries in this region still underwent some complex socio-economic problems, including poverty, famine, diseases, and political instability.

In Middle East and North Africa MENA, GCF as a share to GDP was higher than that in LACA and SSA, even though it decreased during the 1970s to the 2000s. The impact of global structural change, indeed, also affected this region. In line with the re-emergence of international capital markets, capital inflows also compete with domestic resources. As oil exporters, several MENA countries achieved benefits from rising oil prices.

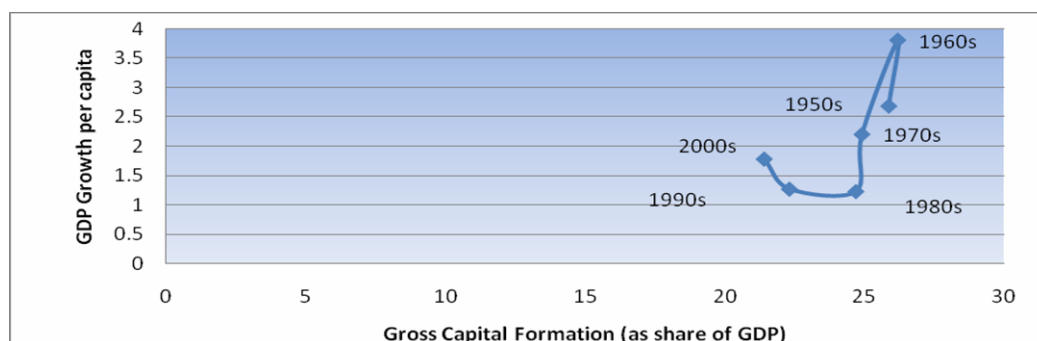
Nevertheless, other part of MENA, like Israel, Jordan and Egypt, were not oil-exporter countries. Underlying on Ben-David and Papell (1998), those countries experienced significant change of growth as the impacts of global change during the 1980s. Moreover, after oil prices slumped in the midst of the 1980s, capital accumulation declined in line with a fall of investment share to GDP. This condition indicates that demand is unlikely to promote capital accumulation for sustainable growth.

### **3.2. Long-term Economic Growth and Investment Threshold**

This section examines some stylized facts in order to find the target thresholds at the global level and among regions, particularly developing regions. The strong complementarities and mutual reinforcing between economic growth and investment occurred in regions and nations during the long-wave of the 1960s to the 2000s. In the discourse of long-wave, investigating investment target can become a crucial factor to determine adequate capital formation for sustainable upswing. Besides, this section investigates structural linkage of capital accumulation and rate of growth; it also observes the world demand mode to view what potential is on this front for maintained GDP growth through the long-wave. The sustainable long-wave upswing requires both a stable increasing productivity and a steady enhancing demand. In particular, previous analysis can be strengthened by examining demand mode which identifies contribution of demand decompositions to rate of growth.

As displayed in Figure 4, GCF as a share of GDP had two main patterns during the 1950s until the 2000s. The first, during the 1950s until the 1960s, capital formation had increased from the decade annual average of 25.86 per cent as a share of GDP in the 1950s to 26.18 per cent in the 1960s. In this period, the world experienced a long-wave upswing with this adequate level of investment. Productive innovation and exiting forms of capital can increase productivity and the basis of exports through economies of scale. Conversely, during the borderline of the 1970s and the long-wave downswing of the 1980s-2000s, GCF has continuously declined from an annual average of 24.9 per cent in the 1980s to 21.4 per cent in the 2000s. This indicates that capital formation in the world is relatively high in the long-wave upswing and relatively low in the long-wave downswing.

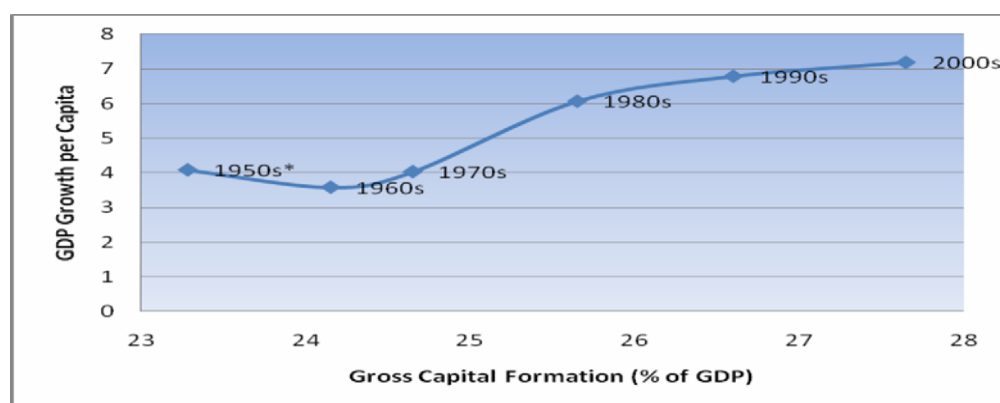
Furthermore, from the point of view of the linkages between capital formation and rate of growth through a long-wave, this section examines the world mode of demand to see what the potential is on this front for sustained rate of growth. Figure 4 illustrates the high world GDP growth per capita for the 1950s and 1960s followed by lower rates for the 1970s, 1980s, 1990s, and 2000s.



Source: Gross capital formation (GCF) 1960s–2000s was calculated using period annual averages based on data from World Bank (2010); Aggregate GCF data for World 1940s and 1950s was calculated using weighted average from selected regions (East Asia, South Asia, Western Europe, North America, LACA, and Oceania); GDP growth per capita 1960s–2000s was calculated using period annual averages based on World Bank (2010); GDP growth per capita 1950s was calculated using period annual average based on Maddison (2001).

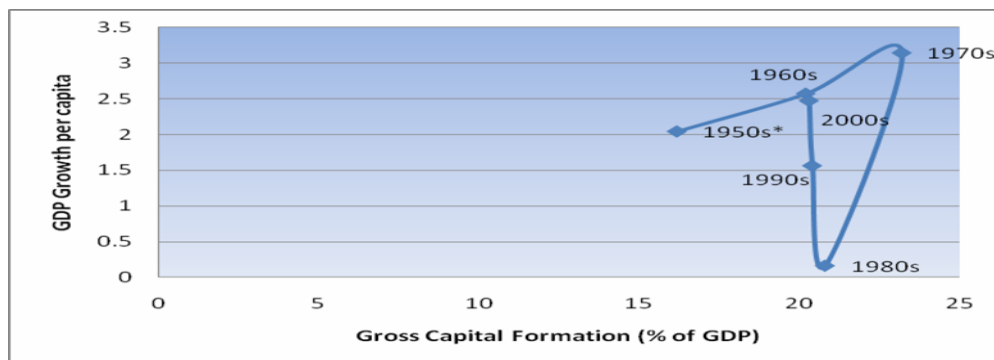
Figure 4. Gross Capital Formation (% of GDP) and GDP Growth per Capita: World, 1950s–2000s, Period Annual Averages

In Asia, GCF as a share of GDP was roughly on the range between 23.15 and 27.65 per cent. In that range, this region experienced a long-wave upswing during the 1960s to the 2000s. For instance, Figure 5 illustrates that Asia underwent a long-wave upswing with a threshold of roughly 24.15 per cent capital formation as a share of GDP in 1960s, then this threshold increased in the same direction with rate of growth per capita. This indicates that mutually reinforcing between investment and economic growth occurred continuously in Asia during the 1950s until the 2000s. The proportion of fixed assets and inventories in the Asian GDP can become embodied in productive innovation that propels productivity through economies of scale. In line with increasing productivity, net-export in this region experienced improvement.



Source: Gross capital formation (GCF) data 1960s–2000s was calculated using period annual averages based on data from World Bank (2010); GCF data 1950s for Asia was adapted from Wenkai, Geng and Xiuke (2009) and Basu and Maertens (2007); GDP growth per capita 1960s–2000s was calculated using period annual averages based on World Bank (2010); GDP growth per capita 1950s was calculated using period annual average based on Maddison (2001). Note: \*= India and Japan for data 1950s.

Figure 5. Gross Capital Formation (% of GDP) and GDP Growth per Capita: Asia, 1960s–2000s, Period Annual Averages

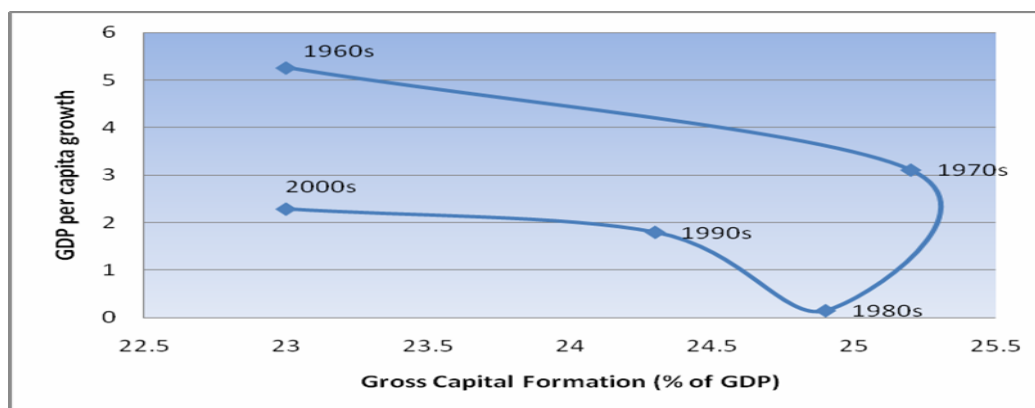


Source: Gross capital formation (GCF) data 1960s-2000s were calculated using period annual averages based on data from World Bank (2010); GCF data 1950s for LACA was calculated from Kuznets (1955); GDP growth per capita 1960s-2000s was calculated using period annual averages based on World Bank (2010); Data 1950s was calculated using period annual average based on Maddison (2001). Note: \*=Chile and Mexico for data 1940s and Chile, Mexico, Honduras and Peru for 1950s.

Figure 6. Gross Capital Formation (% of GDP) and GDP Growth per Capita: LACA, 1960s-2000s, Period Annual Averages

Capital formation in LACA as a share of GDP was already on an unstable path during the 1950s to the 2000s. LACA experienced the long-wave upswing in the 1970s with threshold capital formation of 23.5 per cent. As displayed in Figure 6, the motion of capital formation as a share of GDP in LACA was decided in the same direction with economic growth. For instance, during the 1980s, decreasing capital formation from 23.2 in the 1970s to 20.8 in the 1980s is unlikely to provide a sustainable upswing. In the 1990s, this region underwent stagnation in capital formation on annual average levels 20.23 per cent as a share of GDP; thereby rate of growth was below 2 per cent. However, in the 2000s, the rate of growth improved slightly towards borderline while capital formation still remained stagnant from an average of 20 per cent to 21 per cent as a share of GDP.

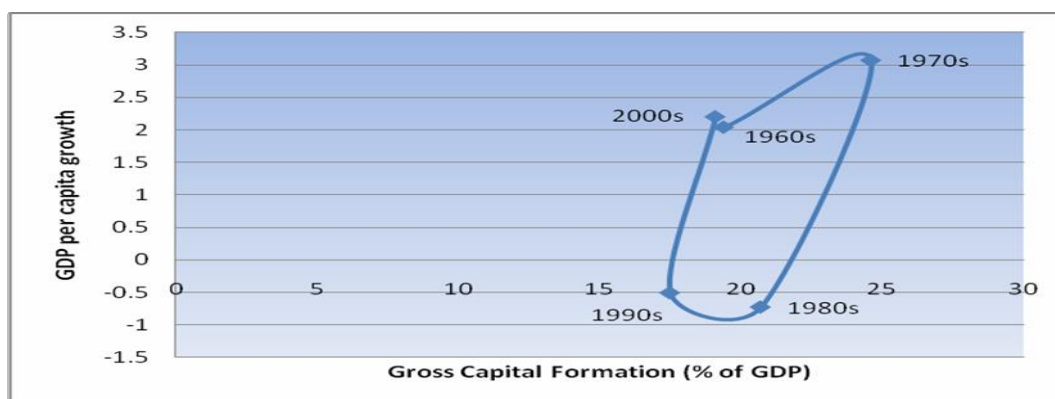
MENA had an unsteady pattern in capital formation as a share to GDP during the 1960s to the 2000s. Figure 7 illustrates that MENA experienced a long-wave upswing in the 1960s and the 1970s with threshold capital formation between 23 per cent and 25.5 per cent. While the rate of growth declined from an average of 3.11 per cent in the 1970s to 0.15 per cent in the long-wave downswing of the 1980s, capital formation has decreased from a decade annual average of 25.2 per cent to 24.9 per cent. Capital formation then was stagnant on levels 23-24.5 while this region generated slightly improved towards borderline in the 2000s. In MENA, a distinctive fact emerged that linked with the discourse of long-wave. For instance, in the 1960s, MENA experienced an upswing with a threshold of 23 per cent, on the contrary, in the same threshold of investment, this region underwent borderline in the 2000s.



Source: Gross capital formation data 1960s-2000s were calculated using period annual averages based on data from World Bank (2010); GDP growth per capita 1960s-2000s were calculated using period annual averages based on World Bank (2010).

Figure 7. Gross Capital Formation (% of GDP) and GDP Growth per Capita: MENA, 1960s-2000s, Period Annual Averages

The pattern of capital formation in SSA as a share of GDP is unstable. Figure 8 displays that SSA only experiences long-wave upswing in the 1970s. In that upswing, capital formation increased from the decade annual average of 19.4 per cent as a share of GDP in the 1960s to 24.6 per cent in the 1970s. Then, while this region experienced a long-wave downswing during the 1980s to the 1990s, this region had declining capital formation from 20.7 per cent in the 1980s to 17.5 per cent in the 1990s. In the 2000s, this region improved its capital formation into 19 per cent as a share of GDP in the 2000s, thereby rate of growth slightly increased into borderline.



Source: Gross capital formation data 1960s-2000s were calculated using period annual averages based on data from World Bank (2010); GDP growth per capita 1960s-2000s were calculated using period annual averages based on World Bank (2010).

Figure 8. Gross Capital Formation (% of GDP) and GDP Growth per Capita: SSA, 1960s-2000s, Period Annual Averages

#### IV. CONCLUSION

The discourse of global investment generates some results that are linked with CCC circular as well as contradiction. The sustainable growth and development requires the strong complementarities and mutual strengthening among demand, investment, productivity,

technological process, and structural change. Investment can become a fulcrum to connect between the rate of growth as demand proxy and productivity, and is emphasized in some important literatures. Kuznets (1934) put forward capital formation to examine capital accumulation associated with economic growth. Gerschenkron (1954) reveals that economic backwardness in most regions and countries occurs while the process of capital accumulation is unlikely to propel investment which can stimulate demand. Kuznets (1955, 1961) again employed capital formation as a share of GDP to investigate development process among countries. More latterly, according to UNCTAD (e.g., 2003), regions and nations need to consistently raise their investment share to GDP far above 25 per cent in order to continue on the growth and development path. This threshold of investment share of GDP above 25 per cent is likely to determine investment performance in middle income developing countries.

Thus, from the point of view of those literatures and some stylized facts that are linked with the results, the following summaries can be made. Firstly, the target of investment share of 25 per cent GDP is an adequate level investment for a sustained upswing. For instance, the world experienced a long-wave upswing in the 1950s to the 1960s with investment threshold as a share of GDP around 25 per cent. In the developing regions, Asia experienced a long-wave upswing with a threshold range between 24 and 30 per cent during the 1950s to the 2000s. This indicates that developing countries in Asia can undergo an upswing with requiring capital formation as a share of GDP below 25 per cent. In case of MENA and LACA, these regions underwent a long-wave upswing with investment shares of GDP between 23 and 25 per cent in the 1960s and the 1970s.

The second conclusion is associated with historical specificity. In the discourse of long-wave, the interplay of linkages between economic growth and investment, indeed, is dependent on level and time. Underlying some stylized facts in several regions; the process of capital accumulation may not only link with economic factors, but also be associated with non-economic factors, such as social, political, and environmental factors. For instance, in the case of LACA, this region can undergo the upswing in the 1970s with an investment share of GDP 23 per cent. This fact does not indicate that this level is likely to promote sustainable growth. Collating some literatures from Suter and Stamm (1992); Dymski (2002), during 1970s, LACA employed foreign debt to finance industries and the basis of exports. In the short period, these capital inflows could promote the rate of growth into an upswing. However, domestic capital also moved out from this region to others as capital outflows. Capital outflows affected productivity and export activities. It was clear that LACA underwent a long-wave downswing during the 1980s until the 2000s or during a decade after an upswing.

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## TRADITIONAL INDONESIAN GASTRONOMY AS A CULTURAL TOURISM ATTRACTION

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### Abstract

Culture is the characteristics of a particular group of people, defined by everything from language, religion, cuisine, social habits, music and arts. As a part of the culture, cuisine and gastronomy significantly related to tourism. It has always been a component of the culinary tourist experiences. Tourist is not only eating to avoid falling ill, but also they want to understand a region or a country. Of food, they can receive information about a population and its civilization. Aims of the study is to assess whether travelers only want to see the temples, artifacts, sites etc., or they just want to feel another very memorable experience while visiting tourism objects in Indonesia, including sample cuisine and regional specialties. Then, the author wants to see the drivers for rebuild the character of gastronomy and traditional Indonesian food as a tourism attraction. Therefore, the author also desires to convey that the preservation of the traditional gastronomy, as a part of the national culture, is very important for the development of cultural tourism attraction. This study uses survey techniques to collect primary and secondary data. Researcher conducted in-depth interviews with 150 tourists who are visiting to tourism object in Indonesia. And then, the researcher sent a questionnaire by email to 150 tourism stakeholders, especially those working in the field of gastronomy. Results of this study showed that tourists want others exotic tourism experiences. Travelers will make food as part of the experience when travel to tourism object in Indonesia. There are eight trends that could encourage gastronomy as cultural tourism attraction i.e. trading up, multiculturalism, media communication, demographics and household change, communities' involvement, *glocalization* (globalization with local flavor), product quality, and eco-friendly product. Beside that, need to protect against the diversity of local food, and improve the image of the non-rice food equivalent to the rice food. Thus, communities should be given the knowledge of food quality in the surrounding areas and the implementation of "go green" agribusiness, from farm to fork. Now, some of Indonesian traditional food become intangible cultural heritage; so that it is designed can be to induce economic development, particularly through cultural tourism. Consequently, stakeholders need to conduct research; development, preservation and dissemination to communities on the gastronomic and culinary tourism, by collaborating and strategic partnering with establish organizations.

*Keywords: Traditional food, cuisine, gastronomy, cultural tourism.*

JEL Classifications: L8

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## I. INTRODUCTION

Indonesia is known as emerald at the Equator. Natural beauty and cultural heritage diversity of this country is making tourism attraction, which many other nations worshiped. Usually, the tourists who visit the area are invited to a number of cultural heritage objects to see the Borobudur and Prambanan temple compound, or other sites and artifacts owned by Indonesia. Travelers often directed also to enjoy the natural beauty of Raja Ampat, Komodo, Bunaken and so on. According to data from the Ministry of Tourism and Creative Economy, length of stay and expenditure of foreign tourists in 2012, an average of 7.7 days and \$ 1,133 per person.

Nonetheless, in the world of tourism, Indonesian competitiveness index did not show good positions. In 2013, Blanke and Chiesa (2013) stated that Indonesia tourism competitiveness ranks only 70 out of 140 countries surveyed. For Asia-Pacific countries, Indonesia's competitiveness index ranking is 12th, below Singapore, Malaysia, and Thailand. Indonesia's tourist arrivals in 2012 is only about 7.6 million people with international tourism receipts of U.S. \$ 8 billion, far below Malaysia which has reached 24.7 million visitors, with total revenues of U.S. \$ 19.6 billion. Therefore, to increase the number of tourists, Indonesia should be able to provide a new interesting tourist attraction, beside the temples, artifacts, sites etc. One of the uniqueness of Indonesia is prosperity of gastronomy, including the taste of food and cooking dishes. Gastronomy of Indonesia, nowadays, becomes a relevance topic because the country has many cultures from numerous ethnics who live and spread on thousand of islands. Dealers from China, India, and later, Spain, Middle East and Portugal influenced Indonesian cuisine. Variations in the types and kinds of local Indonesian traditional cuisine is very diverse, it depends on the culture and customs of the local community. Rice, Corn, Sago, Taro, Breadfruit, Canna, and Cassava (Ind: Gaplek) not reflect the state of low socio-economic communities, but local customs and local wisdom in using natural state of harmony.

Reynolds (2010) supposed that the power of prestige utilizes food (and the act of dining) as a medium in which interactions can communicate and display power. He also thought that soft and hard food-power utilizes food as an issue to attract or coerce actors to change their actions through both cultural-symbolic and political-economic conceptualizations of food (Reynolds, 2010). Thus, he propose that the power of prestige can now be seen as both a practical demonstration of soft power and cultural diplomacy at work, and a method for assessing how nations assess and view the power of other nations and organizations. Unfortunately, food delights in Indonesia today are dominated by fast-food foreign culture based as McDonald, KFC, CFC, Wendy, Starbucks, and others. Traditional food is usually served in the houses or barrows began to be shifted by the global product, so that in time they feared would disappear.

For that, this study aimed to assess whether travelers only want to see the temples, artifacts, sites etc., or they just want to feel another very memorable experience while visiting Indonesia, including sample cuisine and regional specialties. Of course, to rebuild the character of gastronomy and traditional Indonesian food as a tourism attraction, we need to look first to the drivers and its triggers. Therefore, in this paper, the author wants to convey that the preservation of the traditional gastronomy, as a part of the national culture, is very important for the development of cultural tourism attraction. The discussion centered on traditional food as cultural heritage, relationship between food and environment, and gastronomy tourism itself.

## II. LITERATURE REVIEW

### 2.1 Traditional Food as Cultural Heritage

According to Indonesian Government Regulation No. 28 of 2004, on Food Safety, Quality and Nutrition Food; the food, as raw material of gastronomy activity, is anything that comes from biological sources and water, whether treated or untreated, which is applied as a food or beverage for human consumption, including food additives, food raw materials, and other materials used in

the preparation, processing, and / or manufacture of food or drink. Difference fresh food to fast food is as follows. First, fresh food is foods that speckle processing experience, which can be consumed directly or used as a raw material of food processing. For instance, rice, wheat, all kinds of fruit, fish, and also fresh water. Second, processed food is a food or beverage process or by a particular method, with or without additives. Third, certain processed food is processed food for consumption of particular groups in efforts to maintain and improve the quality of health of the group. The last, fast food is a food and / or beverages that have been processed and ready to be served directly outside the place of business or place of business on the basis of orders.

Food can essentially be used as a means to achieve food security. Restoring the pattern of diversification of food feeding that has taken hold in communities as local wisdom can do broadening of food consumption. Food diversity, the richness of Indonesian culture, would be both a means of supporting food security, and provide additional income if marketed as a product that can be consumed by tourists. The diversity of food sources in Indonesia, causing traditional Indonesian food also varied flavor. Terminology traditional food here is the food consumed by ethnic group and certain specific areas. Characteristics of traditional food are a) obtained food recipes passed down through generations, b) use of traditional tools and c) typical cooking process engineering.

As local knowledge, sources of local food carbohydrates in Indonesia met from Corn (*Zea mays*), Cassava (*Manihot utilissima*), Sweet potato (*Ipomoea batatas*), Taro (*Colocasia giganteum*), Canna (*Canna edulis*), Bread fruit (*Artocarpus altilis*), Gembili or kemilik (*Dioscorea esculenta*), Uwi (*Dioscorea alata*), Pumpkin (*Curcubita* sp.) etc. Society also has accustomed to eating different types of fish, such as Eels (*Monopterus albus*), Snails (e.g. *Rhinoclavus sinensis*), Shellfish (e.g. *Anadara granosa*), Poultry (e.g. *Gallus gallus domesticus*) and others, comes from the cultivation and haul in nature as a source of protein. As for the source of minerals and vitamins, people get it from fruits and vegetables are available at the forest edge, plantations, and paddy fields, along side of irrigation canals and in the yard.

That is why; culinary Indonesia is more richness than the cuisines of other nations. Some Indonesian traditional foods, unwittingly, has actually entered as a global product. The traditional food is, gado-gado, fried rice, yellow rice, satay, soto, rendang, thiwul, gudeg, etc. However, several of Indonesia traditional food also becomes intangible cultural heritage that need for protection. This is because, during the 20th century, industrialization began to threaten artisan producers and many abandon their traditional techniques. Indonesia is one country that is experiencing it. For instance, Kipo is one of the endemic traditional meals or snacks, made from glutinous rice, just available in DIY (Yogyakarta Special Province), precisely in the cultural heritage area of Kota Gede. At this time craftswomen Kipo, only 4 peoples left, and they are aged over 60 years old. If there are no heirs in the next 10 years, Kipo may be extinct, so it needs to be preserved, as do for many cultural object alike artifacts, monument, building and archives involving both state and private initiatives.

Thorpe (2013) said the protection of cultural heritage has not only social, but also political and economic consequences as well. Whereas the constitution of a national and personal identity is closely tied to receive cultural heritage, as far as material culture is concerned, requires financial support often beyond the means of the countries concerned. Socially, snacks like Kipo describes the social value that indicates a relationship between the community and have a common sense of identity. The value attached to social functions. Its consumers of various ethnic, religious, political views, and social status are also diverse, reflecting the tolerance of diversity. Hence, food as cultural heritage encompasses all aspects of cultural life.

According to Thorpe (2013), politically, cultural heritage can be either a cohesive force or a divisive one when exploited for political purposes directed towards political hegemony. Kipo as preserving traditional food that can be consumed by people from time to time is also a form of political activity to preserve cultural heritage. Preservation of cultural heritage is "for and by all". It

means that attention to cultural heritage should have been charged to the 'central government' (which is personified in the 3 P - Princes, Priests, and Politicians), or just a bunch of public concern over the level, the nobility, clergy, politicians, and scientists are exploiting them only for circles, or tend to be regulated as the study of science, impingement pleasure, memories, and recreational facilities, but should have involved all stakeholders.

We also know that food besides rice, imaged consumed by the poor due to the Indonesian government politically policy, known as the green revolution, in the 1970s that introduced the high-yielding rice varieties of transgenic modified from the International Rice Research Institute (IRRI) and the use of chemical fertilizers and pesticides that cause uncontrolled damage to wetland ecosystems. At that time, food made of rice given a higher status than other non-rice foodstuffs such as cassava, corn, breadfruit and others (Soeroso & Susilo, 2009). As a result, the diversity of food in Indonesia fell. After 30 years passed, the policy mistakes feel the impact, quality and Indonesian food security decreases. Indonesia is still a fairly large food importer in ASEAN. More severe impact of the policy is a wide variety of traditional foods made from non-rice foods extinct, because the source no longer cultivated.

Moreover, economically, the cost of preserving cultural heritage can be a lucrative, beneficial source of income as a result of the global promotion of cultural tourism. Consequently, local food (as a cultural property) it should be protected from extinction. Here the stakeholders need to partner with a variety of parties, be it academics, practitioners and non-governmental institutions. The government itself can act as facilitators for the preservation of traditional cuisine, especially that have been incorporated into cultural heritage.

## **2.2 Food and Environment**

Food availability is very closely linked to the environment in which they live. Clean living environment, not contaminated by toxic materials, will also produce good quality food. Old perspective on the environment is to be the main cause of the crisis in the field of ecology, because the living environment is to be human object. Now a new paradigm began to shift from the conservative to the postmodern. One of them, Naess (1993), looked at the need for the wisdom ecosophy regulates life in harmony with nature in the household. His desire is a shift from a science used to be the wisdom. He considers that the ecological crisis in particular agriculture, when this happens because of changes in human lifestyle. Patterns of production and consumption of food excess and not environmentally friendly as a result of advances in technology and the economy have changed the traditional way of life - a prosperous life is simple but rich in meaning - toward consumerism-prosperous economic matter. High economic growth takes precedence and should be pursued without regard to the development of a holistic food. The greater exploitation of resources is the higher the risk of environmental damage. For that, people need a new paradigm of understanding the ecological sustainability of the environment i.e. balancing of land biophysical factors, economic (purchasing power) and socio-cultural community, including food safety (health).

By doing so, improving the quality of food as an effort to support food security are reflected in the legislation is essential, not only about the nutritional aspects, taste, scent, odor and cooking quality, but also of health safety to avoid chemical residues begin the process of pre (land management) to post-harvest (milling, packing, packaging, etc.). Food that has a good quality will support food security, both in terms of safety, healthy and active life and affordability. System implementation is a good quality food from the input, process and output would require a bit of preventive costs, inspection and damage, even unnecessary costs associated with the public so that production costs will be lower. Use of organic fertilizers to make food become more durable (long-lasting) and fresh, thus attracting consumers, consumed more healthy, cheap, independent and sovereign (not dependent on fertilizer manufacturer).

### **2.3 Gastronomy**

Gastronomy itself, according to the free dictionary (2013), means is the art or science of good eating or a style of cooking, as of a particular region. The art or activity of cooking and can be also expressed eating fine food or art of selecting, preparing, serving, and enjoying fine food (Merriam-Webster, 2013). For the reason, gastronomy is presented to be familiarized to the public so that the next generation can be more innovative in their creativity in making the most of natural resources based on local materials, with good quality and authentic, while maintaining environmental friendliness. Gastronomy is also the main motive behind the actors who prepare and work to the availability of food and beverage needs.

In the excerpt Wikipedia (2013) argued that the term of gastronomy is subsumes all of cooking technique, nutritional facts, food science, and everything that has to do with palatability plus applications of taste and smell as human ingestion of foodstuffs goes. Gastronomy involves discovering, tasting, experiencing, researching, understanding and writing about food preparation and the sensory qualities of human nutrition as a whole. It also studies how nutrition interfaces with the broader culture. Later on, the application of biological and chemical knowledge to cooking has become known as molecular gastronomy, yet gastronomy covers a much broader, interdisciplinary ground. That way, the word can be attached to the term gastronomy "the art or law of regulating the stomach." Gastronomy reflects the identity and cultural integrity of Indonesia as a great nation, even also often can be used as a political tool to negotiate with other nations.

Whilst gastronomy associated with tourism, it has always been a component of the culinary tourist experiences as an important part of the tourist budget. In this case, tourist not only eat to survive and to avoid falling ill, but also they want to understand a region or a country. Of food, they can receive information about a population and the organization of its civilization. By gastronomy, that is to say those practices and rules that constitute the art of fine dining, the tourist experience goes a step further, potentially transforming the gastronomic occurrence into the focus of the trip and the origin of tourist movement in a context where mobility is becoming increasingly global (Clave & Knafou, 2013).

Gastronomy is one of the elements incorporated in a new concept of cultural heritage and cultural tourism, driven by growing trends of a well-being lifestyle, authenticity, environmental protection and the need to have a high-quality experience. Tourists increasingly want foods that emphasize the heritage and culture of a place, which assist the preservation of traditional forms of agriculture and cultural heritage.

### **2.4 Gastronomy Tourism**

The international tourism market is changing. The increase in purchasing ability, greater availability of leisure time, as well as social and demographic changes in the developed countries, have modified traveler's demands creating a substantially different market in the 90's in comparison to the one in the 70's. The outcome of these social changes translates into a larger variety of tourists regarding type, necessities and patterns. Goeldner and Ritchie (2003) said that tourists enjoy native food, particularly items of local or ethnic nature.

A unique food and drink experience has the power to lure tourists like museums, recreation and shopping. Culinary tourism is the hottest niche to emerge within the travel industry in years because dining is one of the best ways visitors can get to know a new and exotic locale. Of the more than \$330 billion Americans spent on food in 2003, nearly 80 percent was spent in restaurants and nearly one-third of that was spent on fine dining. Because regional foods and recipes are a major part of what makes one place different from another, restaurants should create unique and memorable food and drink experiences to build excitement and develop a competitive advantage. The restaurants may already be contributing to culinary tourism in your community without even knowing it. Culinary tourism includes any unique or memorable dining experience that a traveler encounters (QM, 2013).

Gastronomy, as a tourist resource, is appreciated not only for its own sake, but also for its ability to generate rural development. Gastronomic tourism is helping to increase rural revenue sources and improve income levels and employment of local labor, especially women (BFSC, 2013).

Thus, who are gastronomy tourists? They can be a visitor who has traveled to country particularly to dine at your establishment. The gastronomy (or culinary) tourist could be a business traveler who decides to dine at the brasseries. Nearly 100 percent of tourists dine out when traveling, and dining is consistently one of the top three preferred tourist activities. There is a high correlation between tourists who are interested in cuisine and those interested in museums, shows, shopping, music and film festivals and outdoor recreation. Contrasting other travel activities and attractions, cuisine is available year-round, any time of day and in any weather.

Hence, its important that the restaurant take full advantage of the regions gastronomy tourism opportunities by establishing itself as a unique and memorable dining destination that local will refer visitors to and tourists will want to arrival to again and again. Unfortunately, many traditional meals served in Indonesia, yet many who meet the requirements, ranging from quality to the brand as a marker. Most of local food delivered to consumers through traditional (wet) markets, local stores or shops that also do not have a brand, even if there are brands but not convincing.

### III. RESEARCH METHOD

This study uses survey techniques to collect primary data and secondary data. Primary data in the research is data gathered from the original sources (Kuncoro, 2009), derived from in-depth interviews with 150 tourists who are visiting to tourism object in Indonesia, especially in cities of Batam, Denpasar, Jakarta, Yogyakarta, who ordained Ministry of Tourism and Creative Economy as the four main entrances of foreign tourists to Indonesia.

Then, the researcher sent a questionnaire by email to 150 stakeholders in tourism, especially those working in the field of gastronomy. The respondents was conducted in the city of Batam, Medan, Padang, Jakarta, Bandung, Semarang, Yogyakarta, Surabaya, Den Pasar and its surrounding area, Balikpapan, Makassar and Ambon. Respondent's name and email address was provided by AGI (Academy of Indonesian Gastronomy). All about respondents can be seen in Table 1.

Table 1 The Respondents

No	Items	Tourist	Tourism Stakeholders
1	Number respondent	150	150
2	Sampling kind and technique	Probability, simple random sampling	Non-probability, judgment sampling
3	Method of data collection	In-depth interviews	Electronic mail
4	Place of data retrieval	Batam, Den Pasar, Jakarta, Yogyakarta	Batam, Medan, Padang, Jakarta, Bandung, Semarang, Yogyakarta, Surabaya, Den Pasar, Balikpapan, Makassar and Ambon

Source: Survey (2013)

In addition, primary data collection was done also through Expert Meeting (EM) and Focus Group Discussion (FGD). In EM findings of the research are discussed with experts and policy makers who are competent. The secondary data were collected through a variety of other data sources such as the Internet, publications, etc. Secondary data used to support the analysis.



Analysis of this study used a descriptive approach. The research using descriptive analysis basically identifies the characteristics of the observed phenomenon or exploring possible relationship between two or more phenomena (Leedy & Omrod, 2005). Descriptive analysis, according to Kuncoro (2009), also provided an overview of consistent patterns in the data, so the results can be studied and interpreted the brief and full of meaning. Further interpretation of the descriptive analysis performed on the data and relationships that exist in the study.

In the descriptive analysis can be done comparison between the results of the study with the results of related studies and performed a correlation between the results of these studies with relevant theory or concept (Kuncoro, 2009). Then the descriptive analysis can also be done with a relatively simple statistical techniques, such as using tables, graphs, measures of central tendency and the average value, the median, and mode (Contour, 2003). Thus, even if the method of analysis used in this study is relatively simple, but it can provide adequate information in accordance with the research objectives.

#### IV. DATA ANALYSIS AND DISCUSSION

##### 4.1 Finding

Based on the research that has been done, found some of the following. Demography of respondents can be seen in Table 2. The respondents who reply the questionnaire from email is 119 peoples, or e-mail response rate that reaches 79.3% is relatively very good, well above the average responses, which typically only reach 40% (IAR, 2013; Dillman, 2000; Groves, 1990).

Travelers as respondents consisted of 67 men and 83 women, 57 foreign nationals and 93 Indonesian. Average their length of stay 3 days, with spent of money about US \$ 338.759. Luzar et al. (1998), Henderson et al. (1988) and Searle and Jackson (1985) stated that, travelers' gender differences, in general, will reflect inequality leisure time access. These differences also illustrate variances in their behavior to the needs of the tourism product. It takes a long process of socialization with different communication medium. Furthermore, socio-demographic characteristics of travellers such as education and income affect consumer choice tourism types. The higher the socio-demographic status, causing travel choice will be more exotic and eco-friendly.

Table 2 Demography of Respondents

No	Items	Tourist	Tourism Stakeholders
1	Gender		
	Male	67	65
	Female	83	54
	Total	150	119
2	Nationality		
	Foreign nationals	57	55
	Indonesian citizen	93	64
3	Education		
	College	96	79
	Others	54	40
4	Expenditure (US\$1= IDR 11.365)		
	Hotel	105.587 (31.17%)	
	Meals	79.190 (23.38%)	
	Local Transportation	92.389 (27.27%)	
	Gifts	61.593 (18.18%)	

Total		338.759 (100%)	
5	Length of stay (days)	3	
6	Occupancy	Civil Servant : 22	Hotel Operators : 31
		Others : 128	Restaurant owners: 43
			Tour operators : 15
			Chefs : 25
			Others : 5

Source: Survey (2013)

Based on the survey note that tourists expenses to pay hotel amounted to 31.17%, 18.18% reaching to meal, rent a vehicle for local transportation is as much as 27.27%, and to buy souvenirs at 18.18%, respectively.

Travelers visiting the tourism destination are for a vacation and leisure (86%), or business (14%). Itinerants prefer to eat dinner outside the hotel while looking around and sight seeing city they visit (90.67%). Most of them (82.67%) opine greatly enjoy local food specialties Indonesia. The tourists also supposed that traditional food is a new experience (82%). If the requested pick, they will be prioritized on a traditional diet (68.87%), compared attractions like temples or even landscapes. However, they also said that if the dish cannot be separated with cultural attractions and natural attractions (87.33%).

Appropriate local food served to tourists can be attributed to a variety of attractions that already establish, for example, museums, temples, beaches and so on (84.66%). Travellers also said that while in Indonesia, they avoid eating junk food because there are many other food options that can be enjoyed (76%). On average, the foreign tourists who were interviewed visited Indonesia more than once.

In comparison, research conducted by the travel market research firm named "Mandala Research" and sponsored by the World Food Travel Association and other tourism organizations, showing that almost a third (30%) deliberately choose destinations based on the availability of activities related to local food and drink. In other words, the availability culinary activities are a primary reason for taking a trip (WFTA, 2013). In fact, authenticity and local flavors are the greatest drivers of destination choice for these travelers. Beside that, over half (51%) of all respondents said they travel to learn about or enjoy unique and memorable eating and drinking experiences, and nearly two-thirds (61%) are interested in taking a trip to a destination within the U.S. to engage in culinary activities within the next year (WFTA, 2013).

From the survey, it is found that over 75% of travelers notice Indonesia need for improved tourist services, both in terms of English language, how to serve guests and also maintain the cleanliness of the place of business. Equally important is featuring local cuisine as interesting attractions, both in appearance, taste and also how the presentation at the table (88.24%). In addition, travelers interested in trying foods made from non-rice food (84.03%). Friendliness to the environment perceived by tourists as well as the factors that attract tourists to visit, so it needs to be increased awareness among tour operators (92.44%).

Meanwhile, the managers of hotel, owner of restaurants, tour operators and culinary experts expressed a similar sentiment for tourist statement (89.10%). Travelers love eating dinner at the exotic place, strange food dish, not too formal, so they can relax through the night at a tourist spot (82.35%). The price of food is not a priority to pick a type of food, but rather the flavor and

appearance of preferred dish (93.27%). They also said that the local cuisine should be given the finishing touch with a modern feel; make it more attracting tourists to taste (74.79%). Presentation of non-rice foods made (from cassava, bread fruit, taro etc.) very attracting tourists to feel the sensation (66.38%). Interesting food offerings, both neither of futures, ingredients, nor of its taste will make travelers have incredible memories of the sights he visited (89.08%). Usually foreign tourist will tell to their friends in the country of residence. Once upon a time, if the traveler friends visited Indonesia, they will definitely want to look and taste the dishes that had been told by the travelers (77.31%). Stakeholders consider that communication media such as word of mouth is cheap and apt to attract tourists coming to tourism object in Indonesia (96.64%).

#### **4.2 Discussion: The Development of Traditional astronomy Attraction**

Its largest single market of culinary tourism in Singapore on 2011 was Indonesian, with 2.6 million visitors (Mazza, 2013). Enperublog (2009) stated that gastronomy is the new driving force for economic development in Peru. Peruvian food is to be rivalry mining as a driver for economic development, and take over many other industries. It also served to remind them of all the other sectors both directly and indirectly related to the restaurant industry that will benefit from its growth – from farming, to tourism, to cargo companies and even to producers of wood and metal items for tables and cutlery. Gastro-Tourism is significant increase, with a rise of 5% of visits to Peru with its cuisine as the sole or primary reason for the trip.

Rural communities and farmers are also benefiting. Demand for meats, fruits, potatoes and spices is growing exponentially, raising incomes in rural Peru and allowing farmers to implement new techniques and achieve higher production and greater economies of scale that allow them to keep low prices while producing even more. Meanwhile, chef schools are opening up across the country, providing new opportunities for 6,000 students now studying haute cuisine but with Peruvian ingredients (Enperublog, 2009).

Hashimoto and Telfer (2006), and Long (2004) said culinary tourism is recognized as a way to perform local culinary culture, stimulate tourism demand, and enhance destination competitiveness, so gastronomy tourism has also emerged as an increasingly important component of destination marketing. By exploring traditional foods (new foods perceived by their), tourists feel gain more experience toward the local culture. Then, peoples sharing their local culture with tourists via this medium, local residents make it a representation of destination identity. Here, establishing such an identity and creating a more appropriate image related to local food can attract the intended markets, and at the same time benefit gastronomy tourism development.

In addition, food also holds a key place in the "think globally, act locally" debate. Some buyers are keen to support local businesses, or protect the environment by avoiding foods, which have been transported long distances (BFSC, 2013). Thus, if it is associated with the survey that was conducted, what are the trends driving cultural tourism, especially in gastronomy tourism? There are eight trends for developing of traditional gastronomy attraction as seen in Figure 1. First for all trends is trading up. All across world, growing affluence of the populations has a profound impact on consumer spending. Consumers' expenditure is a higher proportion of their income on prepared food, gourmet products, eating out and food items with some form of health or ethical benefits. For discretionary purchases, consumers have traded up where the product is aspiration or traded down when the product is only function (BFSC, 2013).

The second trend is growth of the multi-cultured consumer. Multiculturalism (the state or condition of being multicultural) has become an everyday concept in the daily life of the consumer, driven by globalization, food, the Internet, TV channels and the international tourism.

Third trend is media communication. Snaith and Haley (1999) and also Perdue et al. (1999) said that friendly encounters between residents and tourists are important to a positive destination image, to generate positive word-of-mouth communications, and to guarantee local business and successes of tourism activities. Seaton and Palmer (1997); and Young et al. (2007) suggest that

locals' opinions and suggestions were important to tourists' activities. Explicitly, the content and quality of residents' word-of-mouth communications are influential on tourists' decision making and essential for promoting local products, activities, and attractions. The role of chef and media (TV channels and magazines) become an attraction itself that shapes tourism products.



Source: Based on BFSC (2013), enriched by author

Figure 1. Trends Driving Gastronomy Tourism

The fourth trend is demographics and household change. Change is an ageing population and changing life styles have driven demand for increased hang out, eating out, dine out and others food tourism opportunities. Groups that provide growing markets for food tourism are summarized in the Table 3 below.

Table 3 Group that Provide Growing Markets for Food Tourism

No	Groups	Means	Characteristics
1	DINKS	Double Income No Kids	Younger people, between 25 and 35 years of age, no children, affluent
2	SINKS	Single Income No Kids	Between 45 and 55 of age, well educated, high disposable income
3	Empty Nesters	Parents whose children have flown the family nest	
4	Boomers	Members of the baby boom generation in the 1950s	Having a lot of money
5	Divorcees	Searching for new partners and subsequently will take prospective partners out for dinner and away for romantic weekends	

Source: BFSC (2013)

Fifth trend is communities' involvement. Gursoy and Kendall (2006) stated that development of traditional gastronomic tourism needed attention and involvement of local communities. Involvement of local communities in tourism activities will have an impact on the economic benefits that gained from business growth, increased job opportunities (Tosun, 2002), and tourists' spending on local products and services (Ritchie & Inkari, 2006). Thus, the local community would see tourists as valuable and meaningful. It is suggested that residents benefiting from tourism are more likely to engage in supportive behavior (Gursoy & Kendall, 2006; Gursoy & Rutherford, 2004). They are more likely to recommend what they perceive as valuable to tourists.

Another community that can participate is observers and institutions that are interested in preserving traditional gastronomic tourism through utilization, and development or providing assistance to the public. In Indonesia, AGI is one model of institutions that develop, preserve and disseminate local gastronomy and culinary.

Sixth trend is the rejection of 'McDonaldization'. Tourists have increasingly rejected the industrial 'fordist' model of low cost mass production of food, searching out local, fresh and good quality cuisine that reflects the authenticity of the destination. The end of the 'McDonaldization' of food culture has seen Starbucks fail in Australia, as the brand is perceived bland and lacking individuality (BFSC, 2013).

Another situation can be seen in Indonesia. From survey, serving traditional coffee "angkringan Joss Coffee of Lik Man" (located in the pedestrian, in the north of Tugu Railway Station, City of Yogyakarta) looks much more formidable than international coffee outlet one. Visitors who come every day so much more than Starbucks in Ambarrukmo Plaza and another modern cafe outlets. Suharti, Mbah Cemplung, Bu Tini and mBok Sabar is another example of traditional fried chicken outlets in Yogyakarta. Their business is now more popular with consumers than KFC, CFC, McDonald, and others. Profit from the business, it seems much higher than that obtained franchise outlets. Inappropriately, local culinary outlet usually need to improve and strengthen their English-speaking services, including employees, menus, signs, and food labeling.

At this stage there appeared to be glocalization process. Since the anti-globalization movement scrolling, glocalization process to be a cultural perspective that is associated with the onset of localization into the process of globalization backlash. Glocalization, a term denoting the adaptation of a product or service specifically to each locality, relies on local knowledge (globalization with local flavor), so it became a focal point between the processes of globalization and localization. As a social movement, the community against economic and trade system that erodes global environment, national sovereignty, especially in the third world, etc. (Soeroso & Bapeda DIY, 2008). In addition, people began to realize that junk food, as marketed by the fast-food outlets, not safe for health.

Seventh trend is product quality (goods and services). Top ranked resident's attitudes are a prevalence of high-quality cuisine, culinary, and foodservice for international tourists, then attractiveness and uniqueness of local cuisine (Yi-Chin Lin in Cai, Gartner and Munars, 2009). Objectively, to measure quality of the food material's (tensile, compression, fatigue, impact, hardness, stickiness, texture, etc.) can be used instron, texturometer, viscoelastograph and plasmograph. Meanwhile, in post-harvest handling such as milling quality supervised both qualitative (odor, temperature, pests and chemicals) and quantitative (post-harvest treatment) as well as genetic factors (appearance, color, clarity and density of seed). Even so, keep in mind also that the quality of the food is generally defined sense of subjective factors related to ethnic, environmental and consumer demographics (Soeroso & Susilo, 2009).

Of course, in the development of gastronomy as a tourist attraction, the quality is delivered to the consumer not only about its food ingredients, but also including the overall quality of service. In mid 1980s, Parasuraman et al. (1985) developed a means to measure the scale of Quality in the service sectors, called SERVQUAL. It measures the gap between customer expectations and experience. Several experts like Yu (2001) then developed this instrument further in tourism, called

recreation service evaluation model (REQUAL). MacKay and Crompton (1988), and also Bigne et al. (2003) is similarly developing a conceptual model of consumer evaluation of recreation service quality.

The last trend is eco-friendly product. According to Chancey (2009), five sustainability goals from 2010-2015 is focus on reducing: emissions by 20 percent and water use by 15% per pound of product produced, diverting at least 75% (or 10 percent above the baseline if greater) of all solid waste from landfills, reducing packaging by 10% or increasing the amount of packaging made from renewable material from 45% to 50% and then increasing recycled content by 25%, make source is sustainable and engage growers and suppliers, principally from farm to fork.

Producers have to answer consumer needs toward environmental friendly product. For example, the restaurant owners never stop to think about uses of electricity, water, and paper. Chancey (2009) suggested ten tips to help the restaurant become more eco-friendly i.e. through recycle, upgrade the equipment (by buying more energy efficient appliances), control water uses, switch to greener cleaning supplies, buy of local materials, make straws optional, use cloth not paper, ditch Styrofoam takeout containers, paperless advertising, and do not run when you do not need (don't keep the oven on when you're not using it, don't run the dishwasher when it's only half-full, and don't heat or cool rooms unless you're using them, etc.).

In the future, the restaurants have also to use eco-packaging. Recycling has become commonplace in many restaurants. Take that green effort one step further by using environmentally friendly packaging instead of traditional cups. Eco packaging in the restaurant can be started of preserving the source, i.e. by making cups of taking wood fiber sourced from a combination of land that are not endangered and recycled content. Then we can make cardboard for cups (packaging) of the fiber material, and using of chlorine-free bleaching process. After cups made with plant-based ingredients, then added to it water resistant polylactic acid (PLA) as a coating. In order to secure food, restaurant brand paper attached to a cup made with water-based ink that is applied to the outside through flexography techniques (IPE, 2013). Unfortunately, refers to IPE (2013), eco friendly cups and food containers price, still 40-50 % more expensive than the conventional ones.

## V. CONCLUSION

Based on a series of descriptions that have been submitted, in the development of Indonesian traditional gastronomy as a cultural tourism attraction, we need to understand some of the following. First, tourists don't want just monuments, landmarks, and natural or manmade artifacts, they want others exotic experiences. Travelers will make cuisine as part of the experience when travel to tourism object in Indonesia. They will enjoy the taste and flavor of the food there, and then bring the story of deliciousness when they return to the homeland. Beside that, in fact almost one-third of their budgeted expenditures are for food, so the cookery, taste, cleanliness and environmental friendliness into something major in gastronomy tourism.

Second, there are eight driver trends to build cultural tourism attraction, particularly via Indonesian gastronomy i.e. trading up, multiculturalism, media communication, demographics and household change, communities' involvement, glocalization, product quality, and eco-friendly product. Beside that, we must preserve the diversity of local cuisine, and improve the image of the non-rice food equivalent to the rice food. Food diversity can be accomplished if people can maintain a balance between the biophysical environment with purchasing power of economic resources and socio-cultural constancy. Accordingly communities should be given the knowledge of food quality in the surrounding areas and the implementation of "go green" agribusiness, from plantation to dining table.

For security, land management and food must be protected from the introduction of a chemical system, refers Hazard Analysis Critical Control Point (HACCP) is a systematic approach to identifying hazards (risks) and implementation of food control measures. These efforts ensure

that all stages of production start cultivation to storage, packing and delivery or appearance, conducted in accordance with applicable standards.

Some suggestions relating to the results of this study are as follows. First, intangible cultural heritage, like local cuisine can be designed to induce economic development, particularly through Indonesian gastronomy tourism, so that we need continuously campaign for protecting it by mass media, a deep research and development and has a clear purpose, which can be measured and presented. Such research needs to be carried out continuously and periodically evaluated.

Afterward, to preserve and introduce more food and traditional dishes to the audience, gastronomy and local culinary must be linked with other tourism products, such as hotel and restaurant, spa, festivals, traditions, museums, and other events, so we need strategic management partnership.

By doing so, one option is to conduct research; development, preservation and dissemination to communities on the gastronomic and culinary tourism, by collaborating and strategic partnering with establish organizations, one of which is The Indonesian Academy of Gastronomy, well known with acronym AGI. The institution is not an association of professionals or educational enterprise or ordinary social organization. In Indonesia, AGI is an institutions model that develop, preserve and disseminate local gastronomy and culinary. One of AGI's awareness activities is developing aspects of gastronomic culture to encourage eating habits that are designed to protect consumers' health while keeping the enjoyment cuisine dishes.

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## **ARE GOVERNMENT BANKS LESS COMPETITIVE THAN PRIVATE BANKS? EVIDENCE FROM INDONESIAN BANKING**

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### **Abstract**

Literature suggests that compared to private banks, state-owned banks have lower incentives to maximize profit. This study aims to investigate the possible different competitive behaviour of state-owned banks and private banks. The recent refinement of Panzar-Rosse method by Bikker, Shaffer, and Spierdijk (2011) was employed to estimate the competitive behaviour of state-owned and private banks. The empirical estimation of Fixed-Effect approach shows that the H-statistics of the state-owned banks was significantly smaller than of the private banks. It implies that private banks behaved more competitively than the state-owned banks. The private bank market was close to perfect competition or monopolistic competition where bank products are regarded as perfect substitutes for one another. In contrast, state-owned banks attempted to collude rather than to compete to generate a maximum profit. State-owned banks behaved less competitive because they served the interest of government or politician, have a long hierarchical organisational design, receive an interest rate subsidies and an implicit guarantee from government against failure and their business are being controlled by government.

**Keywords:** Bank ownership, competitive behaviour, Panzar-Rosse  
**JEL Classifications:** L1, L2, G21

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## I. INTRODUCTION

Indonesian banking prior to 1988 deregulation was dominated by five state commercial banks. In terms of third party deposits, in average state-owned banks controlled 80 per cent of the industry. In all types of deposits, state-owned banks had the highest market share compared to private banks. The state-owned banks collected 88 per cent of demand deposits, 72 per cent of time deposits and 95 per cent of saving deposits. The domination of state banks was becoming very obvious considering the fact that during that period the number of private banks exceeded the number of state banks. It also reveals that the capacity of state-banks was much larger than their private counterparts.

The banking reform through the introduction of PAKTO 88 (October Package 1988) opened the access for new entrants to the industry after the long-periods of restriction to new entrants in 1971. The entry of banks was not limited to local private banks but also for joint venture banks that established by the partnership between local and foreign banks. PAKTO 88 also facilitated the opening of new banks by lowering the minimum capital requirement. Furthermore, the reform removed restrictions on business scope and business expansion. PAKTO 88 reduced the proportion of the reserve requirement from 15 per cent to 2 per cent (McLeod, 1999); eliminated the limit on interbank borrowing; permitted banks to introduce savings deposits products of their own design; reduced requirements for existing banks to expand their market through opening new branches and upgrading their services coverage to include foreign exchange transactions.

During the banking reform, the state owned banks were required to compete directly with their private counterparts without major support from the authorities as in the 1970s and early 1980s. The lack of support from government, poor management and intervention from the authorities created less efficient state banks. While banking reform granted opportunity for the private banks to expand their business. Further, the more competitive market created a favourable climate for the most efficient banks to lead the industry. Banking reform changed the landscape of Indonesian banking. The domination of state banks declined and replaced by their more efficient counterparts of private banks. The share of state banks demand deposits fell from 88 per cent in 1981 to 30 per cent in 1996. The state banks were still quite strong in time deposits. However, their share declined after the reform by 36 per cent in 1996. In saving accounts, the share of state banks also declined from 95 per cent in 1981 to 42 per cent in 1996. This paper aims to examine the competitive behaviour of state banks and compare to private banks.

## II. LITERATURE REVIEW

The literature suggests that bank ownership structure influences bank behaviour and performance. State-owned banks are inclined with lower performance than their private counterparts. The study by Micco, Panizza, and Yanez (2004) found that state-owned banks particularly those located in developing countries had lower profitability, higher overhead costs, and higher Non-Performing-Loans (NPL) than their local counterparts. Furthermore, a study by Mian (2003) of 1,600 banks in developing countries found that local private banks are considered to be highly competitive as they offered higher interest rates on deposits as well as loans. In regard to state-owned banks, Mian (2003) found that they had a riskier loan portfolio in terms of loan losses. Nevertheless, state-owned banks still enjoyed low cost of deposits, probably reflecting the implicit or explicit support of the government.

Banks that owned by government tend to have longer hierarchical organisational design than private banks. According to Williamson (1967); Cole, Goldberg, and White (1999, p. 4) and Mian (2003) as the size of an organisation increases, top management loses control of successive hierarchies. Further, in larger organisations the distortions are higher because the orders and directions are transmitted into lower hierarchies. In order to reduce distortions, banks set up explicit rules, for example, about extending loans. Thus, banks tend to rely on hard information to assess

loans applications to ensure that top management maintains control of the whole organisations. On the contrary, managers of private bank with less hierarchical have more discretion in the lending process. Top management can more easily monitor the performance of the loans officer than in larger organisation. As loans officers have more flexibility in extending loans, private banks have a comparative advantage to focus on small borrowers who may not be able to provide hard information on firm performance. It implies that local private banks may have a different segment to state-owned banks.

In addition government banks and private banks may differ in terms of the incentive to maximise profit. Private banks have a higher incentive to maximize profit than state-owned banks. State-owned banks are highly controlled and intervened by the main shareholder, government or government officials. The banks operate to fulfil the needs of government for example serving the social and development activities (Micco, Panizza, & Yañez, 2007). Thus, state-owned banks may be less profitable than their private counterparts because they have to finance the socially profitable but financially unprofitable activities (Gerschenkron, 1962; Stiglitz, 1993). In the case of Indonesian banking, state-owned banks and regional banks (owned by regional government) mostly serve state and local governments. Prior banking reforms in 1988, state-owned banks used as a main instrument to manage money supply that limited banks credit expansion. Further, the lending of state-owned banks was the directive lending based on government priority. Business scope of state-owned banks prior reform was also restricted to serve particular sector of the economy. According to Panglaykim (1968), during the 1960s, the state banks of Bank Negara Indonesia (BNI) focused on providing loans for industry, Bank Rakyat Indonesia (BRI) provided loans to farmers, fishermen, and co-operatives, Bank Bumi Daya (BBD) provided loans to plantations and forestry, Bank Ekspor-Impor (EXIM) to foreign trade and Bank Dagang Negara (BDN) to mining. This restriction still existed up to the 1990s. Regarding to regional banks, regulation number 13 in 1962 concerning regional banks highlighted the role of regional banks as regional development agents. They should focus on funding activities for regional development projects.

Other studies by Micco et al. (2007), La Porta, Lopez-de-Silanes, and Shleifer (2002) and Yeyati, Micco, and Panizza (2004) confirmed that state-owned banks are inefficient because they work to maximize the personal objective of politicians. State-owned banks in developing countries were found to be less profitable during the election period. Unlikely in developed countries, election did not influence the profitability level of state-owned banks in developed countries. Study by Micco et al. (2007) suggests that the differential between the profitability of private and state-owned banks was higher in the election year compared to non election year. Moreover, their study argued that the effect of election variable on bank profitability was substantial. In the election year, the profitability differential was 1.5 per cent, compared to 0.9 per cent in the non election year. In the case of Indonesian banking, the study by McLeod (1999) argued that the source of uncompetitive behaviour of state-owned banks is the privilege of having a captive market for both loans and deposits amongst the state enterprises.

### **III. RESEARCH METHOD**

#### **3.1. Panzar-Rosse Method**

The literature on the non-structural approach provides evidence that market structure is an endogenous rather than exogenous variable. Referring to the contestable theory by Baumol (1982), the structure of markets is determined by the freedom of entry and exit into the market. Thus, a degree of market concentration is not solely determined by market structure. If the market is contestable, which means that there are no barriers to entry and exit, the concentrated market may produce normal profits with price equal to the marginal costs. Based on the non-structural approach, the recent studies directly analysed firms' behaviours rather than market concentration to determine the level of competition (Bresnahan, 1982; Iwata, 1974; Panzar & Rosse, 1987). The

development of the non-structural approach promoted the development of methods to assess the competitive conduct of banks directly “without using the explicit information about the structure of the market” (Bikker & Haaf, 2002, p. 2192).

There were at least three important methods under the non-structural approach developed which are the Iwata model (1974), the Bresnahan model (1982), and the Panzar-Rosse (P-R) model (1987). The Iwata model estimates market power by measuring the conjectural variation values for individual banks supplying a homogeneous product in an oligopolistic market (Bikker & Bos, 2008). “Conjectural variation refers to the assumptions a firm makes about the reactions it expects from its rivals in response to its own action” (Lipezynski, Wilson, & Goddard, 2005, p. 118). The application of this model to estimate competition is rare because of technical issues. Bikker and Bos (2008) explained that the profitability determinants in the Iwata model are interrelated or hard to observe in practice. Further, Bikker and Bos (2008) also underline the complexity of estimating the Iwata model in empirical studies. The model is difficult to employ for empirical research if data about cost and production structure is unavailable.

The second model under the non-structuralist paradigm is the Bresnahan model. It was developed by Bresnahan (1982) and Lau (1982) by assuming that all banks are equal and identical. Based on this assumption, they measured an aggregate analysis of the industry (Bikker & Bos, 2008). Assuming that banks are intermediation institutions that produce one output using various input factors, Bresnahan (1982) and Lau (1982) developed a short-run empirical model for the market power of an average bank. The model determines the value of conjectural variation by simultaneous estimations of market demand and supply curves (Bikker & Bos, 2008). The values of conjectural variation range from zero to one. The result is one if the market is perfectly competitive. In a perfect competitive market, an increase of output by one firm must lead to an analogous decrease of output by remaining firms (Bikker & Bos, 2008).

The third model was developed by Panzar and Rosse (1987). This approach has been used extensively in empirical studies on banking competition because of the modest data requirement compared to the Bresnahan and Iwata approaches. It calculates the sum of elasticity of the reduced form revenues with respect to changes in factor prices. The joint elasticity is known as the H-statistic and it allows us to distinguish empirically between perfect competition and imperfect competition (whether monopoly, perfect collusion or monopolistic competition (Vesala, 1995)). Thus, Panzar-Rosse assesses the competitive behaviour of banks to define the market structure. It is based on properties of reduced form revenue equations at the bank level, the data on revenues, and factor prices. Generally, the Panzar-Rosse method calculates the sum of the elasticity of the reduced form revenues with respect to changes of factor prices. The sum of the elasticities is given by the H-statistics. The value of the elasticity will provide information about banks’ competitive behaviours, and furthermore it determines the structure of the market. The assumption underlying this method is that the market power of banks is measured by the extent to which changes in factor prices (unit costs) are reflected in revenue earned (Vesala, 1995). If the industry is competitive the elasticity will be high; otherwise the elasticity will be low, or even negative in the case of monopoly and collusive oligopoly. The properties of H-statistics allow us to distinguish empirically between common imperfect competition theories of price formation as characterizations of the competitive behaviour of Indonesia banks - whether monopoly or perfect collusion in the oligopoly market, monopolistic competition or perfect competition (Vesala, 1995).

The Panzar-Rosse empirical model assumes that banks have a log-linear marginal cost (MC) and marginal revenue (MR) function (Bikker & Haaf, 2002). The marginal cost and marginal revenue functions are available in equation 1 and 2, where  $OUT$  is output,  $i$  is the number of banks,  $j \in \{1, \dots, m\}$  is the number of input prices,  $k \in \{1, \dots, q\}$  is the other variables affecting bank revenue function, and  $FIP$  denotes factor input prices.  $EX_{i,rev}$  and  $EX_{i,cost}$  are other variables affecting bank revenue and cost functions, respectively. The empirical application of the Panzar and Rosse

approach assumes a log-linear marginal cost function, where dropping subscripts referring to bank  $i$  (Bikker & Haaf, 2002).

$$\ln(MC) = \alpha_0 + \alpha_1 \ln(OUT) + \sum_{j=1}^m \beta_j \ln(FIP_{ij}) + \sum_{k=1}^q \gamma_k \ln(EX_{cost,ik}) \quad 1$$

$$\ln(MR) = \delta_0 + \delta_1 \ln(OUT) + \sum_{k=1}^q \varphi_k \ln(EX_{revenue,ik}) \quad 2$$

Further, the Panzar-Rosse model assumes profit maximizing individual banks, from which it derives a first order condition for profit maximization. The profit maximizing banks produce at the level where marginal cost equals marginal revenue. The equilibrium value for output is available in equation 3.

$$\ln(OUT) = \left( \alpha_0 - \delta_0 + \sum_{j=1}^m \beta_j \ln(FIP_{ij}) + \sum_{k=1}^q \gamma_k \ln(EX_{cost,ik}) - \sum_{k=1}^q \varphi_k \ln(EX_{revenue,ik}) \right) 1/(\delta_1 - \alpha_1) \quad 3$$

In the empirical analysis, the following operationalisation of the reduced-form revenue equation is used. According to Bikker and Haaf (2002, p. 2196) “the reduced-form equation of bank  $i$  is the product of the equilibrium values of output of bank  $i$  and the common price level, determined by the inverse demand equation, which reads, in logarithms, as  $\ln p = \xi + \eta \ln(\sum_i OUT_i^*)$ ”. Refer to equation 4 for the operationalisation of the reduced-form revenue equation.

$$\ln TR = \alpha + \sum_{j=1}^m \beta_j \ln w_{ji} + \sum_{k=1}^q \gamma_k \ln BSF_{ki} + \delta \ln OI_i + \varepsilon \quad 4$$

Where,  $TR$  is the bank revenue,  $w$  refers to three input prices which are the funding rate, the wage rate or personnel expenses and the capital price or capital expenditure,  $BSF$  is bank-specific exogenous factors, such as the risk component and differences in the deposit mix and  $OI$  is the contribution of non-interest income (Bikker et al., 2011; De Bandt & Davis, 2000; Yeyati & Micco, 2007). The reduced-form revenue in equation 4 is the standard specification. Some studies modify the specification. For example Shaffer (1982); Nathan and Neave (1989); Molyneux, Lloyd-Williams, and Thornton (1994); Bikker and Haaf (2002) and Gelos and Roldos (2002) added total assets as one of the explanatory variables to represent scale. Total asset is also used as the denominator of bank revenue in the left-hand side of the model representing bank revenue for each value of assets or price (Bikker & Haaf, 2002; De Bandt & Davis, 2000; Molyneux et al., 1994). Other studies, for example Vesala (1995) and De Bandt and Davis (2000), added equity as a scale variable.

Based on equation 3, this study estimates the joint elasticity of the reduced-form revenue function with respect to factor prices or the H-statistics.  $i$  is the bank,  $j \in \{1, \dots, m\}$  is the input prices.

$$H = \sum_{j=1}^m \frac{\partial R_i}{\partial FIP_{ij}} \frac{\partial FIP_{ij}}{\partial R_i} \quad 5$$

The value of H-statistics represents the market structure, whether monopoly or perfect collusion, monopolistic competition or perfect competition. Equation 6, below is a formula to calculate H. It is the sum of the elasticities in equation 4, which consists of the elasticity of revenue with regard to the changes of funding cost ( $\beta_1$ ), elasticity of revenue with regard to changes in human resource expenditure ( $\beta_2$ ), and elasticity of revenue with regard to capital price changes ( $\beta_3$ ).

$$H = \sum_{i=1}^3 \beta_i \quad 6$$

Table 1 provides a summary of the discriminatory power of H based on some studies on banking competition. The value of H-statistics determines the structure of the market under observation.

Table 1. Summary of Discriminatory Power of H-statistics

Values of H	Competitive environment
$H \leq 0$	<ul style="list-style-type: none"> <li>- Monopoly equilibrium: each bank operates independently as under monopoly profit maximisation conditions.</li> <li>- Perfect cartel (collusive oligopoly) <sup>i</sup></li> <li>- Monopolistic competition without the threat of entry <sup>ii</sup></li> </ul>
$0 < H < 1$	<ul style="list-style-type: none"> <li>- Monopolistic competition with free entry equilibrium.</li> <li>- Strategic interactions among a fixed number of banks in oligopoly market <sup>iii</sup></li> </ul>
$H = 1$	<ul style="list-style-type: none"> <li>- Perfect competition.</li> <li>- Free entry equilibrium with full efficient capacity utilisation.</li> <li>- Monopolistic competition where banks products are regarded as perfect substitutes of one another <sup>iii</sup></li> </ul>

Source: Panzar and Rosse (1987); Vesala (1995); Bikker and Haaf (2002, p. 2195); Bikker et al. (2011).

Note: i Panzar and Rosse (1987) and Vesala (1995)

ii Vesala (1995)

iii Bikker and Haaf (2002)

In the empirical study, there are five assumptions under the Panzar-Rosse method. First, banks are treated as single product firms that act as financial intermediaries. As financial intermediaries, bank output is interest revenue. Banks have three types of inputs which are intermediate funds, labour and capital (De Bandt & Davis, 2000). By using the three inputs, banks offer loans and other interest-based activities to customers to generate interest income. Banks are also assumed to produce a single product which is an interest-based product such as loans. Indonesian banking is close to meeting the first assumption because banks rely on interest-based activities to generate their income. The data shows that between 1980 and 2010, on average the contribution of interest-based activities was almost 80 percent of total bank revenue.

The second assumption is that the market is in equilibrium in the long run. It implies that under long-run equilibrium, the risk-adjusted rates of return will be equalised across banks in the competitive capital market. It means that the bank return rates will not be correlated with input prices (Bikker & Haaf, 2002, p. 2200). The equilibrium test can be performed by recalculating Panzar-Rosse's H-statistics by replacing the dependent variable total revenue with the return on assets (Delis, Staikouras, & Varlagas, 2008, pp. 8-9). The null hypothesis is that the H-statistics equal zero reflecting a market in long-run equilibrium (De Bandt & Davis, 2000). Otherwise, we can indicate that the market is in disequilibrium. The formal test of the long-run equilibrium is available in appendix. Third, we have to assume that higher input prices are not associated with higher quality services that generate higher revenues because if the correlation exists there might be bias in interpreting H (Gelos & Roldos, 2002). The fourth and fifth assumptions are considering banks as profit maximization institutions and that they have normally shaped revenue and cost functions (Gelos & Roldos, 2002, pp. 13-14).

### 3.2. Empirical Model

The Bank of Indonesia, as the regulator of the banking industry divides banks into six categories based on ownership and business capacity. The local banks consists of four categories which are the state-owned banks, the regional banks, the private banks with capacity to handle

foreign exchange activities and the private banks without capacity to handle foreign exchange activities. The Government of Indonesia is the major shareholder of the state-owned banks. The regional banks are owned by the local or provincial governments. The private local banks belong to Indonesian private entities. The foreign banks category consists of two categories which are the joint venture banks and branches of foreign banks. Joint venture banks are created through a partnership between local banks and foreign banks. The second type of foreign banks is the branches of overseas banks in Indonesia. The literature groups the joint ventures and branches of foreign banks

Table 2 provides information on the number of banks in each category across the major periods in the last three decades. In total, the number of banks reached the highest point under the deregulation and liberalization period and reduced to half within the consolidation and crisis periods. In terms of the number of banks, Indonesian banking is dominated by the local private banks. The number of private banks increased during the deregulation and liberalization period (1988-1997) from sixty-five banks to 181 banks. It is followed by joint venture banks with twenty-nine banks between 1998 and 2000 or 18 per cent of the market. There were eleven branches of foreign banks. The number of regional banks was twenty-five and there were four state-owned banks after the crisis.

Table 2. The Number of Banks for each Category between 1980 and 2010

Period (Year)	Number of banks	Group/ Category						
		Government Banks		Private Banks				
		State Owne d Banks	Regional Banks	Local Private Banks		De novo Banks		Foreign Acquired Banks
				Local private – Foreign Exchange Banks	Local private – Non Foreign Exchange Banks	Joint Venture Banks	Branches of Foreign Banks	
Prior deregulation: 1980-1987	110	7 (6%)	27 (25%)	10 (9%)	55 (50%)	None	11 (10%)	none
Deregulation and liberalization: 1988-1997	259	7 (3%)	27 (10%)	80 (31%)	101 (39%)	34 (13%)	10 (4%)	none
Crisis: 1998-2000	159	5 (3%)	25 (16%)	46 (29%)	44 (28%)	29 (18%)	10 (6%)	none
Consolidation: 2000-2010	148	4 (3%)	25 (17%)	32 (21%)	38 (26%)	18 (12%)	11 (7%)	20 (14%)

Source: calculated using data from the Annual Financial Report of Banks, published by the Central Bank of Indonesia.

Data in the bracket is the percentage of banks in each category compared to total banks.

In this study, government banks are defined as banks owned by the central, state or regional governments. More specifically, central, state or regional governments are the main shareholders of the government banks. On the contrary, private banks are owned by private entities either local or foreign. This study employs the un-scaled revenue specification, of the Panzar-Rosse method based on Bikker et al. (2011) to estimate the degree of competition in the group of government banks and the group of private banks. The base group is government banks. The model



introduces one dummy variable,  $P_1$ , to estimate the degree of competition across groups independently. The dummy variable of  $P_1$  is assigned to private banks and is equal to one if it is a private bank and zero if it is a government bank. The treatment of the dummy variable is similar to the previous sections with the multiplication of explanatory variables and the dummy variable to form interaction variables. The difference between the coefficient of input prices for the base group and the interaction variables determines the difference in the degree of competition between groups. The F-test is employed to examine whether the difference is statistically significant. Further, the coefficient of interaction variables inform whether the group of private banks is more competitive than the group of government banks. Below is the econometric model used to assess competition across groups.

Unscaled-Revenue Specification with Interaction Variables

$$\ln TR_{it} = \alpha_0 + \sum_{j=1}^3 \beta_j \ln w_{jit} + \gamma_1 \ln EQ_{it} + \gamma_2 \ln DEP_{it} + \gamma_3 \ln OI_{it} + \gamma_4 \ln DDC_{it} + P_1 * \left[ \alpha_0 + \sum_{j=1}^3 \beta_j \ln w_{jit} + \gamma_1 \ln EQ_{it} + \gamma_2 \ln DEP_{it} + \gamma_3 \ln OI_{it} + \gamma_4 \ln DDC_{it} \right] + \sigma_i + \varepsilon_{i,t}$$

Table 3 provides the specification of variables to assess the competition across sub-groups of government banks and private banks.

Table 1. Specification of Variables of Assessing the Competition across Sub-groups

Variable	Variable Specification
i	is the index for bank
t	is the index for year between 1980 and 2010
j	is the index for three input price variables which are $w_1, w_2, w_3$
$TR_{it}$	is banks revenue measured by the values of total revenue or interest income of bank i and time t
$w_{1it}$	is funding rate measured by the ratio of annual interest expenses to total deposit of bank i and time t
$w_{2it}$	is wage rate/ personnel expenses measured by the ratio of annual wage and salary expenses to total deposits plus total loans of bank i and time t
$w_{3it}$	is capital rate measure by the ratio of other expenses to fixed assets of bank i and time t
$P1_{it}$	is dummy of private banks multiplied by input prices j, bank i and time t $P1_{jit}=1$ if i= private bank
$OI_{it}$	is the proportion of non-interest income measure by the ratio of non interest income to interest income of bank i and time t
$EQ_{it}$	is capital risk measured by the ratio of equity to total assets of bank i and time t
$DEP_{it}$	is deposit mix measured by the ratio of total deposits on total assets of bank i and time t
$DDC_{it}$	is deposits mix measured by the ratio of demand deposits from customers to total deposit of bank i and time t
$\sigma$	is is the bank fixed effect (unobserved heterogeneity)
$\varepsilon$	is a white-noise error term that includes errors in the competition measure.

The empirical model was estimated by using the Fixed-Effect approach of panel data. The application of the Fixed-Effect Model allows the inclusion of bank Fixed-Effects that can be used to control for the heterogeneity between banks that are not captured in the model. The Fixed-Effect Models will treat the heterogeneity of the non-time-varying determinants of revenues by entering cross-section dummies (for each bank). Therefore, the model will introduce different intercepts capturing the bank-specific characteristics that are not explicitly addressed in the regression specification (De Bandt & Davis, 2000). Controlling for the heterogeneity of the non-time-varying determinants of bank revenue will result a consistent measures of the estimators.

### **3.3. Source of Data**

The present study relied on the data of annual financial reports between 1980 and 2010. The data was collected from Banking Statistics published by the Bank of Indonesia. The commercial banks annual financial reports prior to the year of 2000 are available in book format. Those books can be accessed from the library of the Bank of Indonesia in Jakarta. Banks annual financial reports after the year 2000 are available electronically at the website of the Bank of Indonesia. Data of all variables are collected from the annual banks' balance sheets and income statement.

This study aims to cover all commercial banks in the industry based on the database of banks' annual financial reports published by the Bank Indonesia. This study had successfully compiled the unbalanced panel data of all 286 commercial banks between 1980 and 2010. The total number of observations was almost 3,636. Hence, on average, the sample includes more than 13 observations for each commercial bank. The average number of observations for each commercial bank was less than the number of years captured by this study due to a lack of data (bank mergers, bank entries and bank exits) for those banks during the sample period.

## **IV. ANALYSIS AND DISCUSSION**

The results on the competition level in the two sub groups are presented in Table 4. The values of the H-statistics for government banks and private banks are 0.27 and 0.73 respectively. This implies government and private banks had a different degree of competition. The F-test was employed to assess whether the difference in the values of the H-statistics was significant or not. The outcomes of the hypothesis test shows that the difference in the degree of competition between the government and private banks was significant using the 99 per cent confidence level. The results imply that the private banks were more competitive than were government banks. The test of the joint coefficient of input prices supports the above findings. By using the 99 per cent confidence level, the joint coefficient of input prices of government banks could not reject the null hypothesis that the government banks worked in a monopoly or collusive oligopoly type of market. In contrast, their private counterparts were more competitive. The test of joint coefficients of input prices of the private banks rejects monopoly and perfect competition. Thus, private banks were operating under a monopolistically competitive market.

The finding indicates that the markets of state-owned banks and private banks were segmented. The literature, discussing organisational design such as Williamson (1967) may explain why the two groups are segmented. State-owned banks have a longer hierarchical organisational design than private banks which are dominated by small local banks and joint ventures. State-owned banks have bigger constraints in extending loans to small borrowers with the limitation to provide "hard information". In contrast, private banks with less hierarchical organisational design may have a comparative advantage in using soft information to extend loans to smaller borrowers. Thus, the two markets may be segmented on the type of borrowers that they serve. Government banks prefer to extend loans to bigger borrowers while private banks may be more willing to allocate some loans to smaller borrowers. Another supporting argument of market segmentation

between state-owned and private banks relies on the existence of high switching costs in the banking industry. It involves some costs if customers plan to switch from one bank to another. Most of state-owned banks have existed for longer than their private counterparts. Therefore, state banks may already have a large number of devoted long-term customers who find it costly to switch to a newer private bank.

State-owned banks were working under a monopoly or collusive oligopoly market. This result may also be interpreted as the state-owned banks attempting to collude rather than compete to generate profit maximisation. Vesala (1995) provides evidence that the non-positive value of H-statistics may also imply that banks are working under monopolistic competition without threat of entry. This type of market may also explain the type of competition within government banks. Under monopolistic competition banks tend to differentiate themselves by various product quality variables and advertising. However, state-owned banks work under monopoly profit maximization because there was an entry restriction to becoming state-owned banks. In contrast, the private banks worked in a monopolistic competition market. The finding is consistent with the evidence presented in the previous section where it is shown that the small banks market was more competitive than the large banks. Private banks in the Indonesian banking were dominated by small banks that are likely to be more aggressive than the larger banks (Berger, Klapper, & Udell, 2001; Berger & Udell, 2002; Cole et al., 1999; Stein, 2002). Therefore, it is clear that private banks behave in a more competitive way than do the state-owned banks.

This finding is also in line with the argument presented by McLeod (1999) that the state-owned banks have some advantages compared to their private counterparts. There was a policy that required state-owned enterprises to deposit all their funds in the state-owned banks (Margono, Sharma, & Melvin Li, 2010; McLeod, 1999). This policy benefitted the state-owned banks as they have captive funds from the deposits of the state enterprises. In addition, before banking deregulation in the 1980s, the government subsidised the interest rates of deposits of the state-owned banks (Margono et al., 2010). These advantages spoiled the state-owned banks and generated un-competitive behaviour. On the contrary, private banks work to maximize the profit and behave more aggressively to increase their market shares. The study by Laeven (2005) on the banking industry in East Asian countries also found that the performance of private banks in general was superior to state banks. Banks' performance was measured by the ratio of operating income to total assets. The study assumed that banks are profit maximisers, thus higher profit is associated with better performance (Laeven, 2005).

Table 4. Competitive Environment Test of Indonesian Banking, Competition Estimation on Sub-Group, Government Banks and Private Banks (Total Revenue as proxy of Banks' Revenue and Time Effect Dummies)

Explanatory Variables	3 <sup>rd</sup> Specification (Unscaled Revenue Specification) <sup>a</sup>	
	Government Banks (FE Estimate)	
$w_1$	0.11 (0.08)	**
$w_2$	0.04 (0.09)	
$w_3$	0.13 (0.05)	**
OI	0.01 (0.03)	
EQ	-0.1 (0.09)	**
DEP	-0.36 (0.13)	**
DDC	-0.01 (0.04)	

Joint Coefficients of input prices or	Government Banks	Private Banks
H-Statistics	0.27 <sup>b</sup>	0.73 <sup>c</sup>
Hypothesis testing:	(0.06)	(0.01)
Ho=0		
F test		
p	4.25	51.45
Ho=1	0.04	0.000
F test		
p	30.43	6.97
Degree of freedom	0.000	0.009
OH	(1,285)	(1,285)
F test (1,288), OH=0		0.46
P		8.12 <sup>d</sup>
		0.000
Number of observation	3,639	
R <sup>2</sup> within	0.77	
Time Effect Dummies	37.43 <sup>e</sup>	
(F statistics of joint test)		

\*\*\* Denotes significance at the 1% level; \*\* Denotes significance at the 5% level; \* Denotes significance at the 10% level. FE means Fixed Effect estimates. Figures in parentheses are t ratios.

- a) Total revenue as dependent variable
- b) Ho=0 cannot rejected and Ho=1 rejected (both in the level of confidence 99%).
- c) Ho=0 and Ho=1 are rejected (both in the level of confidence 99%).
- d) Ho=0 rejected (in the level of confidence 99%)
- e) Ho=0 rejected (in the level of confidence 99%).

## V. CONCLUSION AND POLICY RECOMENDATION

This study reveals that ownership structure affects bank competitive behaviour. State-owned banks and private banks behave differently. Particularly, state-owned banks behaved less competitive than their private banks counterpart. The state-owned banks worked to serve the interest of government as the majority shareholder (McLeod, 1999). In addition, the state-owned banks have long hierarchical organisational designs which leads banks to focus more on large borrowers than the small ones (Williamson, 1967). State-owned banks also suffered from quality controls, government intervention and were used to disburse directed loans. This contributes to create uncompetitive behaviour of government banks. After all, state-owned banks receive an interest rate subsidies prior 1988 banking reform and an implicit guarantee from the government against failure as shown by a series of state-owned bank bailouts, for example Bappindo, in the early 1990s and all state commercial banks during the 1997 crisis.

On the contrary, private banks which are dominated by small banks have more capacity to extend loans to small borrowers. The private banks competed more rigorously than state-owned banks. The private bank market was close to perfect competition or monopolistic competition where bank products are regarded as perfect substitutes for one another. In contrast, state-owned banks attempted to collude rather than to compete to generate a maximum profit. Or the state-owned banks may operate under monopolistic competition with a fixed number of banks as there was a restriction to establish state-owned banks. Small banks, joint venture banks, and branches of foreign banks contributed to enhance competition within the private banks market. They behaved more aggressively in order to survive or reap some shares in the market. On the contrary, the state-banks worked to serve the government interest as the major shareholder and were used to fulfil the interests of some government, government officials and politicians. Therefore, the degree of competition in the market of state-owned banks was much lower than in the market of private banks.

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## Appendix

### A. Equilibrium Test

One of the assumptions under the Panzar and Rose method is that the market is in long-run equilibrium (Claessens & Laeven, 2004). Referring to some studies, the market equilibrium test validates whether the Panzar-Rosse statistics can deliver reliable results or not (De Bandt & Davis, 2000). If the market is in long-run equilibrium, the risk-adjusted rates of return will be equalised across banks as in the competitive capital market. As explained by De Bandt and Davis (2000) under the long-run equilibrium, banks return rates will not be correlated with input prices. It is required to examine whether the Indonesian banking industry between 1980 and 2010 was long-run equilibrium. In order to test the existence of long-run market equilibrium, some studies suggested testing whether the input prices are related to the industry return. The same model specification as equation 4 is employed with a modification on the dependent variable. Here, we replace the dependent variable of banks revenue with the ratio of net income to total assets (ROA) or the ratio of net income to equity (ROE) as an endogenous variable (Bikker & Haaf, 2002; Claessens & Laeven, 2004; De Bandt & Davis, 2000; Molyneux et al., 1994).

$$\ln ROA_{it} = \alpha_1 + \sum_{i=1}^3 \beta_n \ln w_{it} + \gamma_1 \ln EQ_{it} + \gamma_2 \ln DEP_{it} + \delta \gamma_3 \ln OI_{it} + \gamma_4 \ln DDC_{it} + \sigma_i + \varepsilon_{i,t}$$

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In some years we find that the values of banks' returns are negative, especially in the crisis period between 1997 and 1998. Following Claessens and Laeven (2004) and Casu and Girardone (2006) the measures of return on assets (ROA) and return on equity (ROE) are adjusted to  $\ln(1+ROA)$  or  $\ln(1+ROE)$  to produce positive values of the measures. By adjusting the measures of ROA and ROE to  $\ln(1+ROA)$  or  $\ln(1+ROE)$  we will be able to generate all values of ROA and ROE in all times even though banks experience loss.

Equilibrium is defined as a condition where the value of equilibrium E-statistics is zero. The E-statistic is defined as the summation of  $\beta$  of the coefficients of input prices. Further, we can employ an F-test to verify the statistical significance of the test whether the  $E = 0$  (Claessens & Laeven, 2004). The Hausman test (1978) was performed to examine which approach is more suitable to test the long-run market equilibrium of Indonesian banking between 1980 and 2010. The Hausman test shows that the  $\chi^2$  value is 254.46. The probability value indicates that the  $\chi^2$  value is significantly different from zero. It implies that the test is failed to reject the null hypothesis of no correlation between heterogeneity effect and other explanatory variables. Thus we rely on FE model to test the long-run equilibrium in the Indonesian banking market. The results of the equilibrium test are displayed in table 5. The hypothesis testing was conducted to find out whether the joint coefficient of input prices equals zero or not. We performed a regression model that incorporates time dummies. The F-test was employed to test the joint coefficient. The joint coefficient of the input prices variables ( $w_1, w_2, w_3$ ) is -0.00147. The value of the F-test shows that the joint coefficients of input prices or E-statistics are not significantly different from zero. The result of hypothesis testing of the equilibrium estimation implies that the market reached its equilibrium in the long-run. The input prices variables did not relate to the industry return. The long-run equilibrium is the critical assumption under the Panzar-Rosse method. This result of the equilibrium test shows that this study can employ the Panzar-Rosse method to test the competitive environment because the Indonesian banking market between 1980 and 2010 was in long-run equilibrium.



Table 5. Equilibrium Test of Competition Model of Indonesian Banking between 1980 and 2010  
 (Return Assets as Dependent Variable)

Explanatory Variables	All banks (FE Estimate) With time dummies	
$w_1$	0.0014 (0.003)	
$w_2$	-0.0017 (0.003)	
$w_3$	-0.0019 (0.0014)	
OI	0.001 (0.001)	
EQ	0.012 (0.002)	***
DEP	0.0007 (0.003)	
DDC	0.000 (0.001)	
Number of observation	3,636	
R <sup>2</sup> within	0.077	
Joint Coefficients of input prices or E-Statistics	-0.00147 <sup>a</sup>	
Equilibrium test	(0.004)	
F test	0.33	
$\rho$ (1,286)	0.5649	

\*\*\* Denotes significance at the 1% level; \*\* Denotes significance at the 5% level; \* Denotes significance at the 10% level. FE means Fixed Effect estimates. Figures in parentheses are t ratios. Clustered standard errors have been used to deal with general heteroskedasticity and cross-sectional correlation in the model error (Baum, 2006)

a)  $H=0$  cannot be rejected (level confidence 99%)

## **FOOD SECURITY OF TENANT FARMER HOUSEHOLD IN DRAWDOWN AREA OF WONOGIRI MULTIFUNCTION DAM**

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### **Abstract**

This research aimed to study the food security status of tenant farmer household in drawndown area surrounding Wonogiri multifunction dam. This study was a survey research with explanatory research taken place in five subdistricts existing surrounding Wonogiri multifunction dam with the greatest number of tenant farmer and the broadest subsidizing land, including Nguntoronadi, Baturetno, Giriwoyo, Wuryantoro, and Eromoko. The data of research was collected from the result of interview with 75 tenant farmer households in five subdistricts analyzed using a descriptive analysis method. The result of research showed that (1) the food expense of farmer household was higher than non-food expense; (2) the mean energy consumption for every member of household was not even and still below Recommended Dietary Allowances (RDA) of 2000 kcal per day; (3) the mean of protein consumption per capita had surpassed the Recommended Dietary Allowances (RDA) of 50 grams per day; and (4) most farmer households were in poor food security condition.

*Keywords: Food security, farmer households, drawndown area.*

JEL Classifications: Q18, I 31

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## I. INTRODUCTION

The construction of Wonogiri Multifunction Dam megaproject in 1976 exerted a great effect to the people surrounding dam construction. The great positive effect of this megaproject is that it serves as irrigation source for farming area in either Central Java or East Java, meaning that for the development, agriculture is the main sector in the national food provision. But this construction also leaves some problems to the people around that area, in which only 24% of 12,525 household were successfully moved in transmigration program, and the number of people who failed in transmigration and then resettled surrounding the dam has not been counted.

The people surviving surrounding Wonogiri Multifunction dam generally have narrow area or have no area at all. As the consequence, they tried to survive by utilizing the dam drawndown area to be the farming area. They cannot utilize the drawndown area instantaneously, but they should hire it from the dam organizer, PT Jasa Tirta 1. The attempt of utilizing drawndown area by means of hiring cannot directly guarantee the life, particularly the food availability for their household because the farmers frequently cannot harvest their product from the drawndown area during the excessive rainfall.

Considering such the condition, it is very important to conduct a study on the extent to which they can meet their need for food and the extent of their household tenacity food.

## II. LITERATURE REVIEW

The Law Number 7 of 1996 about *Food* mandates the necessity for the government along with the society to realize the food security to all Indonesian people. Food security in household subsystem included the activity of organizing the consumption pattern consciously, parsimoniously, efficiently and responsibly. Household should be able to adjust with food source or surrounding environment that provide it most efficiently, can produce its need entirely or partially, can maintain diversity, obtain balanced nutrition, can suppress the food wasting, can have and organize food reserve (Suryana, 2003).

In addition, Suryana (2003) confirmed that from the food institutionalization system, the food security manifests as a result of synergic working of a system consisting of household, society environment, and government subsystems. Household subsystem encompasses the organization of consumption, procurement, and reserve patterns. Society environment subsystem encompasses the organization of production, distribution, and marketing; and government subsystem included policy, facilitation, and security.

This research focused its study on food security in the farmer household subsystem. Regarding this, Suryana (2003) explained that food security in household subsystem encompasses the activity of organizing consumption pattern consciously, parsimoniously, efficiently and responsibly, that is, the ability of adjusting with the most efficient food source produced or provided by surrounding environment, the ability of producing its need either entirely or partially, the ability of maintaining diversity, of obtaining balanced nutrition, of suppressing the food wasting, of having and organizing food reserve.

To measure whether or not a household has gotten balanced nutrition, the food security of household can be measured based on energy and protein consumption per capita per day, or the percentage household with energy deficit and protein. The Recommended Dietary Allowances (RDA) adequacy for energy consumption is 2200 Kcal per capita per day, while the protein consumption is more than 48 g per capita per day. Nevertheless, when energy consumption per capita per day is  $\geq 70\%$  of RDA, it is said as having met the RDA. In addition, the household food security can also be measured by considering the proportion of food expense compared with non-food expense. The higher the proportion of food expense, the lower is the household food security level (Azwar, 2004).

Based on the theories above, the conceptual approach to food security in this research was to see the ratio of food expense to total expense of farmer household and the extent to which the energy and protein consumption adequacy is met.

To measure the energy and protein consumption adequacy, a food consumption assessment was conducted. Suhardjo and Riyadi (1990) explained that the consumption assessment was carried out using survey method, either quantitatively or qualitatively. The survey on food consumption aimed to find out and individual's or a group of people's food consumption. The group of people here can be family, household, villagers or local people. The quantitative survey on food consumption was intended to find out the amount of food consumed by estimating the nutrition consumption. The qualitative survey on food consumption was usually conducted to find out the frequency of eating and to identify the eating habit and to way of obtaining food.

### III. RESEARCH METHOD

The data of research was the primary one obtained from 75 household through interview method with questionnaire help. This research was conducted in 5 (five) subdistricts existing surrounding the Wonogiri Multifunction Dam with the largest number of drawdown area tenant farmers, including: Nguntoronadi, Baturetno, Giriwoyo, Wuryantoro and Eromoko Subdistricts, and for that reason, the drawdown area is wide (see Table 1).

Table 1. The number of tenant farmers & drawdown area width in the research site

No	Subdistrict	Number of Farmers	Drawdown area width (Ha)	No. of farmers. Selected Villages*)	No. of Respondents
1	Nguntoronadi	2533	378.3220	603	16
2	Baturetno	2338	254.0225	530	14
3	Giriwoyo	1162	87.5115	601	16
4	Wuryantoro	1108	174.0340	400	11
5	Eromoko	1366	95.7700	679	18
Total		8507	989.6600	2813	75

Source: Compiled based on the data from Perum Jasa Tirta 1, 2010.

\*Selected villages: Kedungrejo (Wuryantoro), Kedungombo (Baturetno), Glesungrejo (Giriwoyo), Sumberejo (Wuryantoro), and Baleroto (Eromoko).

The data obtained was analyzed descriptively. To find out the food security status, the ratio of food consumption expense to total expense household was measured, so did the energy and protein consumption of farmer households. The measurement of energy and protein consumption was carried out with Food Material Code List (FMCL) help. The general formula is as follows:

$$Kgij = (Bj/100 \times Gij) \times (BDDj/100)$$

Notes:

Kgij = The addition of nutrition i of each food j consumed.

Bj = Weight of food material j consumed (in gram)

Gij = Nutrition i content of food j

BDDj = Percentage edible food material j.

The recommended dietary allowances was classified based on the varying dietary allowance values evaluated in some levels referring to Health Department's guidance (1990): (a)

Good:  $\geq 100\%$  RDA; (b) Moderate: 80-99% RDA; (c) Poor: 70-80% RDA and (d) Deficit:  $< 70\%$  RDA.

The measurement of food security degree was classified based on the varying value of food expense proportion and its energy adequacy value, just like in Table 3.

Table 2. The Measurement of Household Food security Degree

Energy consumption			Food Expense	
			Low ( $< 60\%$ of total expense)	High ( $\geq 60\%$ of total expense)
Moderate ( $> 80\%$ of recommended dietary allowances)			1. Food-tenacious	2. Food-susceptible
Poor ( $\leq 80\%$ of recommended dietary allowances)			3. Food deficiency	4. Food-vulnerable

Source: Rachman et al in Nisfah (2012)

## IV. DATA ANALYSIS AND DISCUSSION

### 4.1 The Characteristics and Respondent

Farming household is the one in which at least one member of it undertakes the activity of producing farming product in the objective that entire or a part of its product will be sold/exchanged in order to get income/profit on its own risk. Such the activities include farming/planting, fish breeding in the pond, *karamba* or *tambak* (fishpond), fisherman, and cattle/poultry breeding (BPS, 2009). The following is the characteristics of respondents by age, sex, number of family members, and side job.

Age is one indicator of labor availability, in which the labor availability that has been adequate from age aspect is the sufficient capital in the implementation of various activities because in its categorization there are productive and non-productive ages. The following is the distribution of age for the drawndown area tenant farmer respondents in Wonogiri.

Table 3. The distribution of age for the drawndown area tenant farmer respondents

Distribution of age (Yr)	Sex of respondents			
	Female		Male	
	Number (persons)	Percentage (%)	Number (persons)	Percentage (%)
30 - 39	3	4.00	3	4.00
40 - 49	5	6.67	13	17.33
50 - 59	8	10.66	17	22.67
60 - 80	6	8.00	20	26.67
Total	22	29.33	53	70.67

Source: Primary Data Analysis, 2012.

The data in Table 3 explains that the age of majority respondent in the research location belongs to productive age, so that it can be said that majority respondents still have high working productivity. It indicates that the farmers still work on farming job maximally, so that it will yield income that can meet their household need. The age factor also affects an individual in meeting his/her nutrition need; the more age will require different nutrition compared with the nutrition requirement during growing age.

The number of and the sex of family members also affect the family's food consumption, because the dietary allowances of each family member will be different according to age and sex. Below is the table of respondent family member number distribution.

Table 4. The Distribution of respondent family member number

No. of household members (persons)	Sex of Respondents					
	Female		Male		Total	
	Total (persons)	Percentage (%)	Total (persons)	Percentage (%)	Total (persons)	Percentage (%)
1	2	2.67	1	1.33	3	4.00
2	5	6.67	8	10.67	13	17.33
3	7	9.32	13	17.34	20	26.67
4	6	8.00	17	22.67	23	30.67
5	2	2.67	9	12.00	11	14.67
6	0	0	4	5.33	4	5.33
10	0	0	1	1.33	1	1.33
Total	22	29.33	53	70.67	75	100.00

Source: Primary Data Analysis, 2012.

The number of household members intended in this research was the ones in addition to nucleus family that are father, mother, and children plus the member of extensive family who also live in one house. The number of family members living in one house is also one indicator to measure the consumption need in one household. The higher the number of family members, the higher is the responsibility of family head to meet his family needs. From the table above, it can be seen that there are the family with large number of family member, reaching 10 family members. Although, on the one hand, the number of family member will be the dependents in food adequacy, but on the other hand, it can be said as the larger opportunity of obtaining income source. It is because to get income, a large number of households undertake economic activity jointly by their members of household.

The household behavior in making food consumption is among other determined by income. Thus, the villagers, most population of which working as the farmers, are usually not dependent for their life on one type of job. If household relies for their life only on farmer job, their household life need will not be met (Reardon, 1997). For that reason, the farmers make job diversification as an alternative to obtaining other income source in order to meet their life need and to improve their life well-being. Von Braun and Pandya-Lorch (1991) stated that household income diversification is a norm among the villagers and the specialization in one activity only is an exception.

At household level, diversification can be done through business diversification and asset utilization, in addition to aiming to look for capital added value, aiming to reduce the household income instability. Income diversification can be implemented in agricultural, non-agricultural activities or combination of them (Hardono and Saliem, 2004). From the result of study, it can be

found that not all respondent household members can work in non-agricultural sector. Only 14 (18.7%) persons become construction labors or other labors, 5 (6,7%) persons become entrepreneurs, one person has business in silk-screening area, one person become a merchant, 4 (5.3%) persons become employees, one person is TNI (Indonesian National Soldier) retired, and 8 (10.7%) persons work in the town. The latter usually send remittance to their household in the village. So, there are 41 (54.7%) that do not undertake non-agricultural activity. The type and the number of job will of course contribute to the difference of income level, thereby leading to the difference of household consumption pattern, as well.

#### 4.2 Household Food Security of Respondents

One of important indicators for household food security is the proportion of household expense, for either food or non-food consumption. In this study, the cross classification of two food security indicators was used: food expense segment and food consumption adequacy, particularly energy consumption (Kcal). The household food security levels of the drawndown area tenant farmers surrounding Wonogiri Multifunction Dam are as follows.

##### 1. The Proportion of Food Consumption Expense compared with the Total Household Expense of Respondents.

The proportion of food consumption expense is the percentage food expense compared with the total household expense. The proportion of respondent household expense can be seen in the Table 5.

Table 5. The Proportion of Respondent Household Expense in One Month

Type of Expense	Total (IDR)	Percentage
Food	820,369.33	58.35
Non-Food	585,631.20	41.65
Food and Non-food	1,406,000.53	100.00
Education	213,168.67	36.40
Health	88,563.33	15.12
Social	175,891.33	30.03
Residence and farming Maintenance	82,289.20	14.05
Other	25,674.67	4.38

Source: Primary Data Analysis, 2012.

The total household expense is entire household expense for either food or non-food consumption. Non-food consumption here includes the expense on family member education (such as tuition, pocket money, and other school utility purchasing), that on health (access to clean water, toiletry utilities and other health care), that on social utilities (contributing to relatives, neighbors, or acquaintances who are having event, visiting the sick people), that on residence and farming maintenance (e.g. for repairing the hoe) and other expenses such as tax payment.

Table 5 shows that the proportion of respondent household food expense (58.35%) is higher than that of non-food (41.65%). The highest expense in non-food category is on school utilities followed by the subsequent substantial expense on social fund utility.

The size of food expense higher than that of non-food expense shows that the respondent's household expense orientation is still on the fulfillment of food need. It indicates that the existing household well-being level is still low because of less substantial surplus income for meeting both secondary and tertiary needs.

## 2. Food Type as Energy and Protein Source

Energy and protein is one of a household's food security indicators. The household food security is highly dependent on the variety of feed consumed daily. Suhardjo et al (2009) stated that food is the materials consumed daily to meet the need for maintaining, growing, working and replacing the damaged body tissue. Meanwhile energy is the energy of doing activity, including working. Food is the fuel serving as energy source the body requires to do working. Protein is the nutrition in the greatest amount within the body. When the food energy is sufficient, it can be said that all feed also contain sufficient protein. The table 5 below shows the variety of food as energy and protein source consumed by the household of drawdown area tenant farmer in Wonogiri Multifunction area.

The table 6 below shows the variety of feed consumed by the respondent farmer household per capita in once consumption. In once consumption, every member of household, on the average, consumes 1 plate of white rice or equivalent to 200 g white rice containing calorie of 298 Kcal and protein of 5.8 g. The food accompanying rice usually consumed includes *sayur lodeh*, *tumis tempe*, *pecel* and *bothok manding*. The vegetable containing most calorie and protein is *pecel* because it contains a variety of vegetables and peanut sauce rich of plant protein.

The side dishes frequently consumed are processed tofu, salted fish and *tempe* either fried or steeped (*bacem*). Salted fish and *tempe* is a local food containing sufficiently high protein. As food interlude, they usually consume the local food resulting from their harvest such as boiled or fried cassava and boiled peanut. These two types of local food provide sufficient energy and protein intake. Considering Indonesian Food Composition Table (IFCT), each 100 g boiled cassava contains 150 Kcal energy and 1.2 g protein. Each 100 g fried cassava (cassava stick) contains 460 Kcal energy and 0.8 g protein. Each 100 g boiled peanut contains 220 Kcal energy and 10.6 g protein (Mahmud, et al., 2008).

Table 6. Types of Food Frequently Consumed by the Members of Farmer Household

Food category	Food type	(g)	Nutrition Level	
			Calorie (Kcal)	Protein (g)
Main food	White rice	200	298	5.6
Vegetables	<i>Sayur lodeh</i>	100	55.9	1.9
	<i>Pecel</i>	100	131	5.1
	<i>Tumis tempe</i>	100	50	4.8
	<i>Gudangan</i>	100	50.5	2.7
	<i>Bothok manding</i>	100	57.3	2.9
Side dishes	Fried Tofu	30	61.8	2.2
	Fried Tempe	30	106.2	5.1
	Tempe bacem	30	71.1	3.2
	Tahu bacem	30	52.9	2.4
	Fried egg	60	114.6	7.2
	Salted fish	30	48.6	6.9
Beverage	Sweet tea	30	12.9	0
	Water		0	0
Snack/ cake	Fried cassava	25	115	0.2
	Boiled cassava	50	75	0.6
	Boiled peanut	50	110	5.3

Source: Primary Data Analysis, 2012.



### 3. Energy and Protein Consumptions

Energy and protein consumption can originate from household food consumption. Data on food consumption derive from recall method for one day. Data on household food consumption are divided into four groups: family head (KK), wife, children (for those less than 13 years old) and other adult members of family (Table 7).

Table 7. The mean energy and protein consumption of each member of respondent household

No	Nutrition Content	Consumption	RDA	Nutrition adequacy Level (%)
1	Energy (Kcal/person/day)			
	a. Family Head	1,494.5	2,230.56	67.00
	b. Wife	1,389.3	1,785.90	77.79
	c. Child	1,515.4	2,206.79	68.67
	d. Other members of household	1,389.1	2,230.56	62.28
2	Protein (g/person/day)			
	a. Family Head	67.9	60.00	113.17
	b. Wife	56.9	50.44	112.81
	c. Child	62.6	54.55	114.76
	d. Other members of household	59.2	60.00	98.67

Source: Primary Data Analysis, 2012

Table 7 shows the mean energy and protein consumption of each household member and its nutrition adequacy level. For the family head (KK), the mean daily energy consumption is 1,494.5 kcal. The amount of energy consumed is only 67% of recommended energy consumption for family head (adult man) of 2,230.56 or generally of 2200 kcal for adult man. The protein consumption is 67.9 g. This figure is larger than the recommended protein of 60 g per capita per day.

On the average, the wife consumes 1,389.3 kcal of energy; this figure is only 77.89% of recommended energy of 1,785.90 kcal or generally adult woman consumes at least 2000 kcal. The protein consumption of 56.9 is fair higher than the recommended one.

The energy consumption level for child only reaches 68.76% of recommended amount. The mean energy consumption is only 1,515.4 kcal. Meanwhile, the protein consumption has been fair of 62.6 g, higher than the recommended amount.

Other phenomenon is indicated by the energy and protein consumption of other household members. Here, either energy or protein consumption level was lower than the recommended amount. The energy consumption is only 1,389.1 kcal or 62.28% of recommended amount and the protein one is only 59.2 g. The provisional assumption is the *ewuh pekewuh* (awkwardness) culture in Javanese culture, a feeling possessed by those who stay with other, affects others' consumption pattern in the family.

Generally, on the average, the members of family can meet their protein need, even exceeding the recommended amount. It cannot be apart from their eating pattern in which this eating pattern is not separated from their planting pattern and the local cultural social factor. Majority drawndown area tenant farmers are the dry land farmers consuming much plant protein deriving from beans and frequently consuming protein source vegetables such as *tumis labu siam*, *pecel*, *tumis tempe*, *oblok-oblok* and *botok*, all of which are the local food and protein source all at

once. Viewed from social cultural aspect, Wonogiri regency close to East Java has eating habit similar to that of East Javanese, loving to consume *pecel* (salad made of blanched vegetables served with peanut sauce). In addition, Wonogiri people also have their typical food, *tumis tempe*.

Suhardjo, et.al (2009) explained that an individual's eating pattern is among other affected by agricultural condition, particularly planting pattern and social cultural condition affecting the food availability.

To find out whether or not the household's energy and protein consumption levels are good, in this research, an analysis on the nutrition adequacy level (TKG) was conducted classified based on the variety of nutrition adequacy value evaluated based on the reference issued by the Republic of Indonesia's Health Department. Such the reference contains the Recommended Dietary Allowances (RDA) corresponding to *Widyakarya Nasional Pangan dan Gizi* (WKNPG = National Food and Nutrition Study) of 2004 of 2000 kcal/capita/day. The classification used is as follows:

- a. Good : TKG  $\geq$  100% RDA
- b. Moderate : TKG 80-90% RDA
- c. Poor : TKG 70-80% RDA
- d. Deficit : TKG < 70% RDA

Table 8 indicates the mean energy and protein consumption of family head representing the adult man group. The number of male family head (KK) in this research was 69 men. It means that it is not surely that in 75 respondent households there is male family head. The energy consumption of most family heads is in deficit condition (25 respondents), meaning that the energy consumption level is less than 70% of RDA (the mean value of 1,276.7 kcal).

Table 8. The mean energy and protein consumption of Family Head (KK) based on Nutrition Consumption Level

Nutrition consumption level category	Energy			Protein		
	Mean Energy (Kcal/org/day)	N	%	Mean Protein (g/or g/day)	N	%
<b>Family Head:</b>						
Deficit (<70% RDA)	1,276.7	25	36.23	0	0	0
Poor (70 – 80% RDA)	1,490.3	23	33.33	37.8	3	4.35
Moderate (80 – 99% RDA)	1,695.6	19	27.54	49.4	10	14.49
Good ( $\geq$ 100% RDA)	2,351.5	2	2.90	72.8	56	81.16
Total		69			69	

Source: Primary Data Analysis, 2012

This energy consumption is much lower than RDA of 2000 kcal. Most respondents consume less consumption intake, in which they only rely on main food during meal time only (food intake only during breakfast, lunch and dinner time) without intake interlude in the form of snack. For protein consumption, most respondents 81.16% are in good category, with the mean consumption of 72.8 gr.

Table 9 indicates that most wives in the respondent household are in energy consumption deficit condition (37 respondents). It means that the energy consumption level is lower than 70% of RDA (with the mean of 1,233.9 kcal). This amount of energy consumption is far below the RDA of 2000 kcal.

Table 9. The Mean Energy and Protein Consumptions of the Wife based on Nutrition Consumption Level

Nutrition consumption level category	Energy			Protein		
	Mean Energy (Kcal/org/day)	N	%	Mean Protein (g/or g/day)	N	%
<b>Wife:</b>						
Deficit (<70% RDA)	1,233.8	37	50.68	34.5	6	8.22
Poor (70 – 80% RDA)	1,463.9	29	39.73	38.6	4	5.48
Moderate (80 – 99% RDA)	1,747.4	5	6.85	46.8	20	27.40
Good ( $\geq 100\%$ RDA)	2,289.3	2	2.74	66.6	43	58.90
Total		73			73	

Source: Primary Data Analysis, 2012

Similar to the case of family head consumption pattern, most wives are deficit in consumption intake, because they only rely on main food during meal time only (food intake only during breakfast, lunch and dinner time) without intake interlude in the form of snack. For protein consumption, most respondents (58.90%) have reached good category, with the mean consumption of 66.6 gram. This protein consumption has exceeded the RDA of 60 gram.

The number of children in the respondent households is 51 children. It means that not all households have child who still stay with them. The children in this research are those less than 13 years old (Table 10).

Table 10. The Mean Energy and Protein Consumptions of the Children based on Nutrition Consumption Level

Nutrition consumption level category	Energy			Protein		
	Mean Energy (Kcal/org/day)	N	%	Mean Protein (g/or g/day)	N	%
<b>Children:</b>						
Deficit (<70% RDA)	1,274.3	18	35.29	0	0	0
Poor (70 – 80% RDA)	1,489.9	19	37.25	37.9	3	5.88
Moderate (80 – 99% RDA)	1,735.6	10	19.61	48.2	10	19.61
Good ( $\geq 100\%$ RDA)	2,171.5	4	7.84	68.4	38	74.51
Total		51			51	

Source: Primary Data Analysis, 2012

The RDA established by the Health Department is 2000 kcal. Table 10 shows that most children in respondent household is on the condition of energy consumption deficit (19 respondents), meaning that their energy consumption level ranges from 70% to 80% of RDA. The mean energy consumption is only 1,489.9 kcal). Just like the cases of family head and wife in the household, the children are also deficit in consumption intake, in which food intake is obtained only during breakfast, lunch and dinner times. The intake interlude in the form of snack is still inadequate, despite this energy desirability for the children in growth and developmental stages.

The other members of household's energy consumption is still less than the national standard. Each of the six children still developed energy consumption deficit (Table 11). None of them has energy consumption in good category.

Table 11. The Mean Energy and Protein Consumptions of other members of household based on Nutrition Consumption Level

Nutrition consumption level category	Energy			Protein		
	Mean Energy (Kcal/org/day)	N	%	Mean Protein (g/or g/day)	N	%
<b>Others:</b>						
Deficit (<70% RDA)	1,269.3	6	46.15	0	0	0
Poor (70 – 80% RDA)	1,472.1	6	46.15	38.2	1	7.69
Moderate (80 – 99% RDA)	1,610.2	1	7.69	44.1	1	7.69
Good ( $\geq 100\%$ RDA)	0	0	0.00	62.5	11	84.62
Total		13			13	

Source: Primary Data Analysis, 2012

In contrast, the protein consumption of 11 persons reaches good category, and none of them develops consumption deficit. All of them show that some attempts are still required to improve the protein consumption of drawdown area tenant farmers and all members of their household.

#### 4. Food security of Respondent Household

The food security concept in this research is defined as the ability of accessing food sufficiently to maintain active and healthy life. The measurement of food security degree is classified based on the different value of food expense proportion and energy adequacy value, as follows:

- Tenacious: Food expense proportion  $\leq 60\%$ , energy consumption  $> 80\%$  of RDA
- Susceptible: Food expense proportion  $> 60\%$ , energy consumption  $> 80\%$  of RDA
- Poor: Food expense proportion  $\leq 60\%$ , energy consumption  $\leq 80\%$  of RDA
- Vulnerable: Food expense proportion  $> 60\%$ , energy consumption  $\leq 80\%$  of RDA.

Out of 75 drawdown area tenant farmer households, only four (4) belong to tenacious, and six to susceptible categories (Table 12).

Table 12. The Distribution of drawdown area tenant farmer households by the Food Security Status

Food security status	No. of household	Percentage (%)
<b>Tenacious</b> (Food expense proportion $\leq 60\%$ , energy consumption $> 80\%$ of RDA)	4	5.3
<b>Susceptible</b> (Food expense proportion $> 60\%$ , energy consumption $> 80\%$ of RDA)	6	8.0
<b>Poor</b> (Food expense proportion $\leq 60\%$ , energy consumption $\leq 80\%$ of RDA)	36	48.0
<b>Vulnerable</b> (Food expense proportion $> 60\%$ , energy consumption $\leq 80\%$ of RDA)	29	38.7
Total	75	100.0

Source: Primary Data Analysis, 2012

Most (36) drawndown area tenant farmer households are in food deficit condition. Here, the food expense proportion is less than 60% of total expense and the energy consumption is less than 80% of RDA. In the next level, there are 29 households in vulnerable food condition. In this category, the food expense is more than 60% of total household expense, representing that the highest expense is on food need. The proportion of food expense higher than non-food expense indicates that the family has not been prosperous.

Overall, there is 86.7% household existing on food deficit and susceptible food conditions, indicating that most household expenses are still oriented on the fulfillment of food need, although the energy need for doing activity is still less than 80% of RDA.

## V. CONCLUSION

The food security status of drawndown area tenant farmer, viewed from the proportion of food expense and the amount of energy and protein consumption is as follows.

- a. The food expense proportion of respondent household is (58.35%) higher than the non-food one (41.65%).
- b. The mean energy consumption for each member of household is not distributed evenly and still below the Recommended Dietary Allowances (RDA) of 2000 kcal per day. The energy consumption of family head is only 1,494.5 kcal per day, that of children 1,515.4 kcal, that of wife and that of other members of household is less than 1400 kcal per day.
- c. The mean protein consumption per capita have exceeded the Recommended Dietary Allowances (RDA) of 50 gram per day, in which the protein consumption of family head is 67.9 gram, that of wife is 56.9 gram, that of children is 62.6 g and that of others in the family is 59.2 gram.
- d. It can found that 5,3% household belongs to tenacious, 8% to susceptible, 48% to less tenacious and 38.7% to vulnerable category.

Thus, it can be concluded that (1) the food expense is larger than the non-food one; (2) the energy consumption of household is still below the national standard; (3) the protein consumption had surpassed the national standard and (4) the prosperity level of tenant farmer is still low.

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Gordon, C.H., Simons, P., & Wynn, G. (2001). *Plagiarism: What it is, and how to avoid it*. Retrieved July 24, 2001, from Biology Program Guide 2001/2002 at the University of British Columbia Web site: <http://www.zoology.ubc.ca/bpg/plagiarism.htm>

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