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# RESEARCH PAPER

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# ECONOMIC MENTALITIES AND PRESENT DAY VALUES IN ROMANIAN BUSINESS HIGHER EDUCATION. A HISTORICAL PERSPECTIVE

Maria MUREȘAN\*, Mariana NICOLAE\*\*

***Abstract:** Mentalities and behaviours are the result of the interactions between persons/groups and the environment. The present paper explores the way mentalities and behaviours have been created by and have themselves determined the economic, social and political processes on the present day Romanian territory at the end of the 19th and the beginning of the 20th centuries.*

*A historical perspective to the study of mentalities shows that the adaptation of a certain mindset, of the mainstream values characteristic of an epoch, to the changes in the evolution of the economy and society was also responsible for preparing the changes in the development of the economy. The present paper explores the differences between economic and business mentalities of people belonging to developed and emerging market economies by considering their historical development. The paper looks at the importance of the presence in the curriculum of business schools of the history of economy and/or of economic thought disciplines in order to help Romanian business higher education become a driving force in changing present day mentalities into values that pro-actively help Romanian students to become effective employees on the globalized labour markets.*

***Keywords:** values, mentalities, higher education*

***JEL Codes:** A 10, A11*

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## 1. INTRODUCTION

The present study is a result of the research project EPIR - *Romanian Economic Personalities and Institutions-the Romanian Added Value to the European Identity*<sup>1</sup> which started in 2007, as part of the National Plan for Research, Development and Innovation, 2007 – 2013, with a view to increase Romania's visibility in the context of European integration and to help define and establish the country brand as a member state of the European Union.

The project unfolds over a period of three years, ending in 2010. The research is a complex one with scientific controversies that have given rise to debates and necessitate fine tuning, as well as professional community discussions to present partial results of research under the scrutiny of a specialized audience. The period the project evaluates is the second half of the 18<sup>th</sup> century up to the present time. It outlines the role of Romanian personalities and institutions against the general European background by bringing light on a space and historic period that are almost unknown to an international public, mainly due to the lack of specialized literature in an international language. It is the role of the Romanian academic community to promote Romanian performances and to prove to the international stage that Romanian economic history, like the history of all communities, can bring added value to the universal historical and cultural heritage.

## 2. METHODOLOGICAL ASPECTS

The Explanatory Dictionary of the Romanian Language states that the concept of *mentality* represents a specific way of thinking of an individual or a group, while that of *behaviour* refers to a way of acting in specific circumstances or situations<sup>2</sup>. However, both mentalities and behaviours being the result of the interaction of the individual/ group with the environment, we believe that the socio-economic and political trends of the Romanian society had a big influence on the economic mentalities and behaviours, especially in that part of society which was subject to the direct impact of the changes determined by the historical evolution.

The economic activity – one of the many human activities – takes place in the framework of a society. Individuals are born and develop their personalities in an already defined social environment. From this point of view, society influences us, by shaping ideas, convictions and habits and by inducing a specific behaviour.

This behaviour becomes a permanent personality trait and, at the same time, it determines a particular mental representation of reality. As a result, the behaviour of economic agents become – to a great extent – a reflection of the environment in which they live and carry out their activity.

The specific conditions and historical environment in which the Romanians lived and carried out their everyday activities have undoubtedly influenced their options, their way of thinking and acting, their life philosophy, their value systems and of course their economic behaviours and mentalities.

Specialty literature in the field of economic theory and history highlights the fact that Europe, in general and Western Europe in particular, represents that part of the world which from the 16<sup>th</sup> to the 20<sup>th</sup> century experienced the most dynamic economic evolution and growth and which was to a great extent responsible for the creation of the modern world economy<sup>3</sup>. And one of the characteristics of the new type of economic order established in western Europe after the 16<sup>th</sup> century is gradual, but sustainable growth<sup>4</sup>. In addition, during the 17<sup>th</sup> and 18<sup>th</sup> centuries, the scientific revolution represented an essential element in the complex process of changing the mentalities and the perceptions on the economic progress, the interest in the economic system and its power of changing the society. All this is accompanied by a sometimes ignored feature of the western world during that epoch, namely the fact that the development was intrinsically connected to innovation, experimentation, risk and creativity, named by some authors “the creative-innovative and experimentation process”, or in short “the creative process”<sup>5</sup>. This term does not refer only to the technical field, but also to the institutional and organizational ones.

All these changes which marked the evolution of the West during the above mentioned centuries were due to a large extent to the appearance of a new behavioural pattern generically called *bourgeois* or of the *bourgeoisie*, which expressed a new attitude, most often called *bourgeois spirit* or *entrepreneurial spirit*<sup>6</sup>. The bourgeois spirit, understood as attitudes towards money, goods, trade, capital movement and accumulation becomes the main instrument in inducing and developing a new economically-oriented behaviour.

Mihail Manoilescu clearly defines the difference between the capitalist spirit and capitalism itself in his argumentation, in full agreement with Werner Sombart’s opinions. “At the beginning”, says Manoilescu, “the capitalist spirit is the one which gives birth to capitalism, of course in a generally favourable environment

and in the framework of specific pre-existent socio-economic conditions; later, capitalism is the one which gives birth and sustains the capitalist spirit for every individual”<sup>7</sup>.

During its evolution, capitalism usually goes through three development stages, dominated in turns by the commercial, industrial and financial capital. In one of his works<sup>8</sup>, Ștefan Zeletin stated that “The three evolution stages of capitalism have their own characteristics, this is why it is not possible to understand the development of one stage by analyzing the characteristics of another one, each must be analyzed separately and understood according to its special features”<sup>9</sup>. In addition, he says, “The bourgeoisie is like a plant, whose roots start from trade relations and whose branches spread out in a free social environment”<sup>10</sup>.

In his turn, Mihail Manoilescu defines the bourgeoisie as “an almost millenary social class whose main function is to organize work and production (first manufacturing and then other types of production) based on the possession of its instruments”<sup>11</sup>. He also considers that the bourgeois spirit “consists of the strong wish to be an entrepreneur, to earn, and of a series of minor but useful virtues which ensure the individual’s accession to and development in the bourgeois world”<sup>12</sup>. In addition, he makes a clear distinction between the genuine and the pseudo-bourgeois people. In the first category he includes the important industrialists and merchants, the big bankers and rural owners – the latter only if they are “real heads of agricultural enterprises”. In the second category he includes the engineers, the economists, the teachers, the judges, the clerks and the professional people<sup>13</sup>. On the historical evolution of the bourgeoisie, he maliciously states that his contemporaries were not able to make the difference between the real bourgeois element and the capitalist and liberal element. “I have shown” – he mentions – “that the confusion between bourgeoisie, capitalism and liberalism is a common one, even in the case of the greatest researchers of the world. But this confusion takes catastrophic proportions in the works of Romanian authors” – the allusion being to Ștefan Zeletin, with whom Mihail Manoilescu had a long dispute during the interwar period<sup>14</sup>.

Of course, we cannot ignore the opinions of Gheorghe Zane<sup>15</sup>, according to whom the freedom of trade and the extension of its area represented the point of departure for the modernization of the Romanian economic system, the shaping of the political and institutional structures being the effect of the economic changes.

### **3. SOME TRAITS OF THE ROMANIAN SOCIETY IN THE 19TH CENTURY**

Going from the field of the theory of economic history to those of historical realities, we can state that at the beginning of the 19<sup>th</sup> century the dominant feature of the Romanian environment was an obvious political instability evident both in the larger geographic environment and within the national context. All this determined the insecurity of life and wealth, limited the economic initiative and the accumulation of capital. The 1828-1829 Russian-Turkish war ended in September 1829 with the Peace of Adrianople, had an important long-term impact on the Romanian Principalities, by reconfiguring their relations with the Ottoman Empire. The liberalization of external trade, the retrocession of the Danube ports, the free navigation and trade on the Black Sea led to the creation of permissive conditions which allowed a greater access of part of the Romanian society to the trade processes of that epoch. During that period “we can speak about the take off of the trade movement in the Romanian principalities. Not only because there was a real separation from the umbilical cord that tied it to the Turkish monopoly, but also because changes took place on a new scale, the structure of the exported goods was modified and an infrastructure of trade was created, which determined new changes in the field”<sup>16</sup>.

Numerous structural modifications of the economic and social life appeared soon. The liberalization of external trade led to the appearance of the business interest in cultivating large lands and in selling Romanian products and, last but not least, to a more obvious expression of the economic and political interest of the West in this part of the European continent<sup>17</sup>. The rapid growth of trade activities in the ports of Brăila and Galați, especially after the establishment of the free port regime, is significant in this respect.

Influenced by the experiences, the trends and the models of the West, the Romanian economic life starts evolving in all its aspects. It still lacked the foundation of the capitalist world, namely the individual and contractual freedom, as well as the absolute private property. The adoption of the Rural Law in 1864 will correct this drawback only partly and extremely slowly. The implementation of the Rural Law leads in time to a complex reforming process which will continue for approximately half a century. It also generates a series of problems determined by its provisions, as well as by the habits of the rural life at that time. One of these problems is related to the incomplete use of the workforce, a phenomenon which is caused by the exaggeratedly high number of religious and official holidays or by

the seasonal character of the agricultural labour. According to the calculations and estimations of Dionisie Pop Marțian around mid-19<sup>th</sup> century the annual average number of days worked in an individual agricultural field was of 115<sup>18</sup>.

The second observation is that during the entire 19<sup>th</sup> century the Romanian economy was dominated by a strong rural feature. The rural environment protects its moral and cultural values as well as its own speed of acting, thinking and becoming, having a distorted perception on the movement and the rhythms of the economic system. The entrepreneurial spirit, however not the bourgeois one, was represented in the 19<sup>th</sup> century Romanian rural environment by the tenant and the middleman.

Urbanisation was a slow and difficult process. At least in the first part of the 19<sup>th</sup> century, the Romanian town was generically represented by the central authority, respectively “the prince” and the high offices, respectively the state institutions. The urban trades served the few existing urban citizens. The agricultural field fulfilled its needs for agricultural tools or semi-processing of agricultural produce through its own workshops where mainly peasants worked during the extra seasonal period. And the village household met its necessities in the framework of the family, by producing hand made goods. What was obviously missing was the commodity market for handicraft or industrial goods.

By the mid-19<sup>th</sup> century, the Romanian Principalities had 3,865 thousand inhabitants, from which 17.2% in the urban environment and 82.8 % in the rural one. At the end of the century the population had increased to 5,957 thousand inhabitants, but the proportions are almost the same, with an urban population of 18.8% and a rural one of 81.2%<sup>19</sup>. As a result, the bourgeoisie and the bourgeois spirit have an extremely limited area of activity, being to a large extent reserved for the elites and manifesting themselves in sui-generis forms. This is caused by the specificity of the Romanian society, as well as by the mix of influences coming from various cultures, which were interpreted and adopted differently in terms of coverage and depth.

The era of industrial protectionism<sup>20</sup> started towards the end of the 19<sup>th</sup> century, more exactly after 1886. However, apart from customs protection, there were also measures to encourage domestic entrepreneurs. This was, in our view, the epoch of the growth and maturing of a national bourgeoisie and of the cultivation and consolidation of the bourgeois spirit. It is important to make a comment concerning the urban and industrial mentalities. A great part of the

Romanian industry was born under the protectionist shield of the state. But the workforce came mainly from the rural environment. The peasant, an agricultural worker who had become an industrial worker, brought to towns not only the strength of his arms, but also the specific behaviour adapted to the rural-household activities. The adaptation of this workforce to a new lifestyle and new rigours was difficult from two perspectives: first as result of the change of professional qualifications, and second as result of the need to change behaviours, values, mentalities. Industrial work involves preciseness, order, promptness, efficiency, performance, etc. Professional training was mainly done on the job taking long periods of time, without the benefits of special professional or vocational schools which meant that the adaptation of the former peasants to the new world and mentalities was done at across generations.

Vocational schools existed in the big cities, usually in Bucureşti and Iaşi. Statistical data show that in the period 1852 – 1905 there were 650 graduates from the vocational schools of Bucureşti, out of which 207 graduated only in the last four years, between 1901 – 1905. In the period 1841 – 1905 there were 500 graduates in Iaşi, out of which 104 graduated between 1901 – 1905. The Law of Education promoted by Spiru Haret created the possibility to set up professional workshops near primary schools, as well as a network of professional schools, but the effects would be seen only decades later<sup>21</sup>.

The conclusion of this section is that at the end of the 19<sup>th</sup> century and the beginning of the 20<sup>th</sup> century the bourgeois mentalities and the entrepreneurial spirit existed and functioned in the Romanian society, but to a low extent. Most of the population was still living in the country side, being involved in agricultural activities of subsistence and having, as a consequence, rural mentalities.

#### **4. SOME TRAITS OF THE ROMANIAN SOCIETY IN THE FIRST HALF OF THE 20<sup>TH</sup> CENTURY**

The end of the second decade of the 19<sup>th</sup> century witnessed a new stage in the evolution of the Romanian economy towards a competition-based market economy and, implicitly, towards the consolidation of the bourgeoisie and the bourgeois spirit.

Greater Romania benefited of favourable conditions for increasing its rate of development and becoming known in the world: it was a state of an average size, with access to sea, two large, navigable rivers and rich mineral resources, among

which oil was the most important one, with extended agricultural lands, a high birth rate and a large young population that represented an important potential internal market. In 1923 a new Constitution was adopted, reconfirming two important reforms promulgated during the war, respectively the agrarian reform and the universal suffrage. These two reforms, obviously of undeniable social relevance and urgency, led to the appearance of two different paces in the functioning of the Romanian economic system.

The first pace reflects the fact that the rural environment preserved its dominant role in the then Romania. Throughout the period between the two world wars, the structure of the population recorded by the censuses was the following one: in 1921, the population of Romania consisted of 15,728 thousand inhabitants, out of which 77.9% represented the rural population and 22% the urban population. In 1939, the population of the country consisted of 19,934 thousand inhabitants, out of which 81.8% lived in a rural environment and only 18.1% in an urban environment<sup>22</sup>.

Land ownership, which meant a further redivision, through successive inheritances, of the lots that had resulted from the 1921 agrarian reform, provided some material support to its owners, but did not encourage the functioning of the internal market. The production offered for sale on the market represented the occasional surpluses of the work of the peasants, which limited the solvent demand for industrial products of most part of the population. Moreover, giving the right to universal suffrage to a large part of the population, not always prepared to exercise this right, turned the Romanian villages into a “field of electoral manoeuvres” and this disturbed their economic activities even more. The rural environment continued to be considered the standard for the national moral and spiritual values, but it remained or was left on the outskirts of the area of the development of the principles and institutions of a functional market economy.

From the point of view of the workload of most part of the active population, the situation remained almost the same<sup>23</sup> as the one which had existed half a century before. For example, Alexandru Alimăneșțianu stated that “from 365 days, only 120 are worked on the field, the rest being wasted without bringing benefits to the peasant”<sup>24</sup>. And to estimate the losses that the national economy recorded as a result of the incomplete use of the workforce and implicitly of the working time in the agriculture of the epoch, he made a relatively simple calculation according to which the national economy incurred an annual loss of 17,645,898,160 lei. Also, to

highlight the degree of aggravation of this situation in the future, he showed that without a proper development of both agricultural and non-agricultural activities, at the appearance of mechanization “the surplus of arms in agriculture will be even higher”<sup>25</sup>.

Alexandru Alimăneștianu was not the only author who estimated that in the period between the two world wars approximately 50% of the working time of the peasants was wasted. Other researchers who analyzed the Romanian agriculture during that period reached the same conclusions by using statistical methods<sup>26</sup>.

The second pace operating in Romania at the time was a faster, more efficient one, being used in the urban environment, dominated by capital and interested in the industrial, commercial and bank development. Despite the controversies of the main political groups, the economic policies adopted gave birth to measures, laws and institutions whose purpose were to encourage and to accelerate the growth of the Romanian economy, an aspect which was confirmed by the results obtained at the end of the interwar period. The economic policy had an important role in this respect. Thus, the laws for encouraging the domestic entrepreneurs, the customs tariffs, the industrial investments, the facilitation of financing enterprises and/or the co-participation of the state or bank capital to their functioning, the institutions that were created, the economic measures adopted by the Romanian National Bank, the increase of the number of operations on the commodity and stock markets, a.s.o. created a permissive framework for the growth and development of our national economy.

During the interwar period the organization of enterprises was consolidated in the form of share capital companies. Their number increased dramatically from 447 in 1920 to 1,171 in 1925. After this year their number remained relatively constant and in 1938 the number of such enterprises was 1,160. On the other hand, during the period 1925-1938 the invested capital increased from approximately 40 billion lei to 162 billion lei, a phenomenon which proved the expansion of the strength of the industrial capital<sup>27</sup>. The above statistical data clearly substantiate the growth of the economic potential of the large industry, as well as the maturing of the Romanian bourgeoisie.

The General Union of the Romanian Industrialists, the organization of the large capital in the country, was created to represent and promote professional interests. This was accessible only to the important entrepreneurs, namely to those who, according to the regulations, were the owners of factories or mills with

equipment of minimum 50 horse power. Of course, other professional associations made up of various industry branches or sub-branches were in existence at the time, but the General Union of the Romanian Industrialists deserves a special mentioning as reflecting the business necessities of those called by Mihail Manoilescu the “real bourgeoisie”. The industrial professional associations had important objectives especially in their relations with the state: they submitted memoranda and proposals concerning the fiscal policy, they were consulted by the government concerning the legislative measures, a.s.o. In conclusion, they played an active role in designing and implementing economic policies.

In its role of both cause and effect of the industrial development, the technical education system had an encouraging evolution. However, as in the previous period, the great majority of the students still came from the rural environment. Thus, for the period 1920-1940, the statistical data show that the average annual number of industrial schools for boys was 150, the average annual number of students going to these schools was 12,113, and the annual average number of teachers providing the training was 762. Apart from these schools there were also 96 vocational schools with 12,550 students and 1,500 teachers. There were also a relatively important number of vocational schools for girls. During the academic year 1938-1939 there existed 98 schools where 15,109 girls were studying. Remarkably, the new characteristic of the interwar period was represented by the increased number of students and graduates of technical higher education institutions. In 1920, the National School of Roads and Bridges became the Polytechnic School, which functioned with several faculties. In the same year the Polytechnic School of Timișoara was founded, and the University of Iași and București organized new sections of applied learning in fields such as mechanics, chemistry, a.s.o., which offered diplomas for engineers. In Cluj, Cernăuți and later Chișinău there were schools of technical conductors.

In the academic year 1921-1922 there were 632 people studying at polytechnic schools and a decade and a half later their number more than trebled to 2,257. In its turn, the High School for Architecture had 75 students in the academic year 1919-1920 and 217 in 1937-1938<sup>28</sup>. The statistical figures that reflected the evolution of technical education in the period 1920-1940 are sometimes contradictory or imprecise. Nevertheless, we can still appreciate that technical education evolved relatively at the same pace as the Romanian economy and the expansion of the modern, capitalist spirit.

To the above data that underlie the accelerated pace of economic and social development of Romania we can also add the perceptions of most of the important Romanian economists as well as politicians of the period between the two world wars. They highlighted in their writings or in their public statements the important role played in the economic development of the country by the mobilisation of the national resources and by the strengthening of the local capital.

Consequently, the development of the Romanian industry – the most dynamic of all branches of the economy – during the interwar period made significant progress, but it failed to go through all the stages of evolution seen in the Western pattern. Implicitly, the Romanian bourgeoisie and its spirit had the same incomplete evolution. Subsequently, the beginning of the second world war suddenly stopped the ascending trend of the Romanian economy and reinforced, in retrospect, the national stereotype of a highly polarized society: the dynamic, quick to get rich bourgeoisie and the rather unfortunate working class, inefficient and dependent on either nature, as farmers, or on the state for welfare.

At the end of the interwar period, Mihail Manoilescu was wondering rhetorically about the future of the Romanian bourgeoisie. According to him, our bourgeoisie, new and different from the Western one, “has less strong characteristics and a smaller spiritual homogeneity”. He also noticed there are two categories of components in the lifestyle and psychology of the Romanian bourgeois, respectively “some brought from the original environment of our new bourgeois, and others brought naturally and compulsorily by the bourgeois status”<sup>29</sup>. And he continued ironically, slightly bitterly: “you totally change your opinions once you stop walking and start driving”<sup>30</sup>. In the long run the speed the Romanian bourgeoisie was gathering by changing the mode of travel would most probably have had a positive impact on the rest of society. It actually had, if only we take into account the development of the education system as a reflection of affluence in society as a whole. The fact that the post-war history of the region put an end to the development of the local capitalism is something that society has to come to terms with and draw its lessons for the present and mainly for the future. But in order to do so it is important that the history of the business development of the country, of its economic actors and institutions, of the values that made Romania “greater” are made known to the general public through education.

## 5. CONCLUSIONS

Romanian business higher education needs to become a driving force in changing present day mentalities, still full of stereotypes about the lack of initiative, general inefficiency of people, mainly managers, into values that proactively help Romanian students to become effective employees on the globalized labour markets.

One possible way to do so would be the presence in the curriculum of business schools of the history of economy and/or of economic thought disciplines in order to help people develop their critical approach to the history of their country, mainly to the history of its economic development.

Another way is the continuation of research projects, such as EPIR, focusing on the re-evaluation of Romanian economic history while communicating to an international audience the core values of Romania's historic and economic development in new, easy to understand language and media.

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<sup>1</sup> www.epir.ase.ro

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<sup>6</sup> See for more details Weber, M., *Etica protestantă și spiritul capitalismului*, Ed. Humanitas, Bucharest, 1993 and Sombart, W., *Le Bourgeois*, Edition Payot, Paris, 1926

<sup>7</sup> Manoilescu, M., *Rostul și destinul burgheziei românești*, Cugetarea – Georgescu Delafras, Bucharest, 1942, p. 294

<sup>8</sup> Zeletin, S., *Burghezia română*, Ed. Humanitas, Bucharest, 1991, p.40

<sup>9</sup> In the Romanian economic literature, Ștefan Zeletin's paper is the classic expression of the point of view supporting the predominance of the economic factors in development. Eugen Lovinescu's paper, *Istoria civilizației române moderne*, is the most well-known expression of the contrary point of view according to which the process of development in the Romanian society is the result of the predominance of the political and the ideological system.

<sup>10</sup> Zeletin, S., *Op. cit.*, p. 27

<sup>11</sup> Manoilescu, M., *Op. cit.*, p. 47

<sup>12</sup> *Ibidem*, p. 292

<sup>13</sup> Manoilescu, M., *Op. cit.*, pp. 55, 57

<sup>14</sup> *Ibidem*, p. 48

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<sup>18</sup> Pop Marțian, D., *Revista economico-politică a anului 1864, în idem, Opere economice*, Ed. Științifică, Bucharest, 1961, pp. 238 and next

<sup>19</sup> Axenciuc, V., *Evoluția economică a României. Cercetări statistico-istorice. 1859-1946*, vol. II, Ed. Academiei Române, Bucharest, pp. 15, 16.

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<sup>21</sup> Axenciuc, V., (2000), pp. 460-464

<sup>22</sup> Calculations made by us accordint to the data presented by Axenciuc, V., *Evoluția...*, pp. 20, 21

<sup>23</sup> Only 5 more days became part of the worked time as result of an evolution of over half a century – n.ns.

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- <sup>27</sup> Axenciuc, V., (1997), p. 296
- <sup>28</sup> Axenciuc, V., (2000), pp. 468, 468
- <sup>29</sup> Manoilescu, M., *Op. cit.*, p. 291
- <sup>30</sup> *Ibidem*, p. 291

# CHINA'S HEALTHCARE REFORM AND RESOURCES REDISTRIBUTION: LESSONS FOR EMERGING NATIONS

Jia CUI\*, Shaomin HUANG\*\*, Gerald RAMEY\*\*\*

***Abstract:** Following China's recent economic growth and healthcare reform, medical services quickly merged into the market economy. The burden of healthcare expense on the Chinese people has become a serious political issue. This research project reviews the changes in health expenditures made during the last two decades. This paper explores the cause of this rapid change in the healthcare sector and analyzes the corresponding statistics during the entire economic reform period. In addition, the paper articulates that the lack of healthcare coverage existed even before the healthcare reform formally started. As a direct result of this reform, medical resources were quickly concentrated in urban hospitals and the individual out-of-pocket expense as the share of total health expenditures sharply increased. Recommendations are made for further healthcare reform.*

***Keywords:** Healthcare, Economic transition, Redistribution, China*

***JEL Codes:** I11, I18, P21*

## 1. INTRODUCTION

China's continuous, fast economic growth and development in the last three decades has become a world economic miracle. Such marvel is credited to the Chinese economic transition that began in the late 1970s. But beneath these superficial benefits, economic and social inequalities have increased substantially since the start of this economic reform (Khan, Griffin, Riskin, & Zhao, R. 1993;

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Chen and Ravallion 1996; UNDP 2000; Zhang and Kanbur 2005). Following the agricultural reform and the industrial reform, the health care system has changed in the early 1990s and officially started its reform in the late 1990s. During the healthcare reform, many public goods and services were ignored in the market system. Since this reform, the national health expenditures have dramatically increased. During 1990-2004, China's national health expenditures have tripled, while the GDP has only doubled. After SARS<sup>1</sup> broke out in 2003, people started to look at the healthcare sector in a different way. Many news agents and researchers have been focusing on this problem in recent years. In 2005, the Development Research Center of State Council, a Chinese central government research agency, officially announced the failure of this healthcare reform (DRCSC 2005).

The people's health is directly related to the nation's labor participation and productivity. The healthcare system plays an important role in people's health. The inequality of income and redistribution of welfare could create social problems. The purpose of this paper is not to support or refute the argument of this failure, but rather to provide some factual information about the healthcare resources and rising costs that have been related. This research focuses on the increasing health expenditures at the national level over the last ten-year period. Inasmuch as the huge social economic difference between urban areas and rural areas in China, the healthcare reforms are not compatible in these two areas. This paper focuses on the changes in health care sector in general, but will not discuss the detailed changes in urban and rural areas separately.

The remainder of the paper is organized as follows: Section 2 discusses China's government policy changes and the healthcare reform, and reconstruction and redistribution in the healthcare sector. Section 3 shows the concentration of healthcare resources into major cities after the reform. Section 4 discusses the redistribution of the shares in healthcare expenditures. Section 5 analyzes the hospital expenditures increase. Section 6 concludes by offering recommendations for further healthcare reform and stronger government regulations.

## **2. CHINA'S HEALTHCARE REFORM**

To better understand the impacts of healthcare reform in the society, we review and compare the old health care system with the newly reformed health care system. After the Communist government was founded in China in 1949, the public healthcare system was quickly established in the urban areas, which had

universal health care coverage<sup>2</sup>. Under this system, health care services were available for all of the employees in the state-owned or collective enterprises and institutes. In rural areas, healthcare was also available in communal health centers which provided a relative low quality services. By the end of the Cultural Revolution (late 1970s), the communal healthcare system of “bare-foot doctors”<sup>3</sup> and clinic centers were well established and covered almost all of the rural areas in China (Zhang and Kanbur 2005). The services provided by “bare-foot doctors” were almost free for the peasants. Even though the combined Western and Chinese medical treatments were not very effective when compared to the industrialized countries’ standard, they were, in fact, much more effective than no medical practices.

Since the agricultural and industrial sectors’ immergence into the market economic system in the 1980s, China’s GDP has been increasing at 9% average annual growth rate for more than two decades. From the central government to the rural peasants, everyone believed that the market economic system would work with the Chinese culture. Even as the economic inequalities became more and more obvious, the hope of becoming rich still drives most members in the labor force to work harder and harder. As the economic reform moved the country forward into a market system in 1990s, the urban employees and their families started to receive less health insurance coverage while the rural cooperative medical system started to collapse (Hu, et al. 1999). Workers’ wage rate is increasing in the economic reform, but they did not expect to pay the high medical expenses out of their own pockets when they were used to having free healthcare. This unexpected psychological change enraged most people in the population.

When The State Council of the People’s Republic of China issued *Decision on Health Care Reform and Development* in 1997, the healthcare reform had formally started. In 1999, many public hospitals and healthcare centers were sold to private entrepreneurs arranged by the local governments. In 2000, the General Office of the State Council of The People’s Republic of China issued *The Directive Proposals on the Reform of Urban Medical and Health Care System* (from the Economic Restructuring Office of the State Council and other departments). Following the same direction, the Ministry of Health of The People’s Republic of China and other departments issued *Administrative Rules of Urban Medical and Health Care Agents Classification*, which allowed the former state-owned nonprofit healthcare agents to be transferred into profitable organizations<sup>4</sup>. As a

result, the health care sector was merged into the market economy. China's healthcare reform is strongly influenced by the successful reformation in the agricultural and industrial sectors, both of which proved that the market economy is the most efficient system for China. Guided by the government, two important changes took place: first, health and medical services merged into the growing market economy; and second, newly established health insurance systems replaced the state budget system in partially covering hospital expenses.

The healthcare reform in urban areas had four major outcomes: (1) deregulation, administrative relaxation, and corruption within the governance of the healthcare sector; (2) the lack of support from the government budget led to the competitive nature of hospitals as non-profit institutions within the market system; (3) the privatization of medicinal producers and pharmaceutical companies along with the weakening of government regulations allowed the companies to establish mutually beneficial relationships with the medical doctors; (4) unlike the old universal healthcare coverage, the newly established urban health insurance system<sup>5</sup> (such as Social Health Insurance) only covers part of the hospital expense for patients. In 2003, the government established Social Health Insurance schemes in urban areas. Later, some private insurance companies moved into the market. However, these schemes covered less than 50% of urban residents at that time. But at the same time, the hospital costs also dramatically increased. In rural areas, the collapse of the rural communal health center system caused the poor patients to seek help from urban hospitals. In 2003, to reduce the damage from the reform in rural areas, the government decided to develop a New Cooperative Medical System (NCMS)<sup>6</sup>. Although the NCMS only covers about 10 percent of rural population, the NCMS scheme could help some peasants. Despite that, there was still a shortage of quality health care services in rural areas. China's new health insurance schemes have increased the risk of high levels of out-pocket expenses, and in the case of "catastrophic" expenses, it has become even larger (Wagstaff & Lindelow 2005).

A great deal of the contemporary Chinese literature in professional journals, popular newspapers, and internet articles blame the failure of this healthcare reform on the unexpected increase in health expenditures and the new unsuitable insurance system. The economic burden of healthcare cannot be removed just by having the government pay for it. Most of developed countries are using the distinction between collective financing (social insurance) and user fees (direct patient

charges) to cover the health expenditures. China is trying to adopt this model. Scholars are still debating on whether the Canadian universal health insurance coverage or the American market health insurance system will fit China better.

### 3. CONCENTRATION OF HEALTHCARE RESOURCES

After the healthcare reform, nationwide medical services were quickly merged into the market economy. Since 2000, most urban state-owned hospitals gained partial financial independent from the government budget and began running as business firms in the market system (Gu 2001), at the same time, they were also competing with rising private clinics (Eggleston 2004). As the economic reform moved forward, the local governments in rural areas started cutting the social development budget (which included healthcare) and relocating the financial resource to regional business and market development (West & Wang 1995; Zhang & Kanbur 2005; Wang et al. 2010).

According to economic theory, the market forces would redistribute the resources following the change in demand and supply. Due to the movement of China's healthcare sector into the market system, the resources in the healthcare sector had been redistributed by the market forces. The healthcare providers were seeking profit, so China's limited medical resources had thus been concentrated in fast growing economic centers. Table 1 below shows the change in the number of hospitals and other health/medical centers in the period before and after the healthcare reform.

The number of urban hospitals had been increasing before and after the healthcare reform. In 1996, there were 15,833 urban hospitals. This number rose to 16,318 in 2000 and continued to rise to 18,703 in 2005. From 1996 to 2000, the number of urban hospitals increased by 3 percent. From 2000 to 2005, the number of urban hospitals increased by 14.6 percent. Evidently, the number of urban hospitals increased much faster after the healthcare reform formally started than before. On the other hand, the number of rural health centers dramatically decreased, moving in the opposite direction. In 1996, there were 51,277 rural health centers. There were 49,229 rural health centers in 2000, and only 40,907 rural health centers left in 2005.

**Table 1** *Changes in health service institutes in 1996-2005*

Year	Urban Hospital	Rural Health Center	Medical Clinic	Sanatorium	Maternal and Child Hygiene	Prophylaxis - Treatment Center	Epidemic Prevention Station	Total
1996	15,833	51,277	237,153	528	3,172	1,887	3,737	322,566
1997	15,944	50,981	229,474	506	3,180	1,893	3,747	315,033
1998	16,001	50,071	229,349	503	3,191	1,889	3,746	314,097
1999	16,678	49,694	226,588	485	3,180	1,877	3,763	300,996
2000	16,318	49,229	240,934	471	3,163	1,839	3,741	324,771
2001	16,197	48,090	248,061	461	3,132	1,783	3,813	330,348
2002	17,844	44,992	219,907	365	3,067	1,839	3,580	306,038
2003	17,764	44,279	204,468	305	3,033	1,749	3,584	291,323
2004	18,393	41,626	208,794	292	2,998	1,583	3,588	297,540
2005	18,703	40,907	207,457	274	3,021	1,502	3,585	298,997

Note: (1) Total number includes other health care agents.

(2) Village health offices in rural areas are included in the category of rural health center.

(3) Since 2002, medical schools and government health agents are no longer included in the total number of health service institutes.

Source: Ministry of Health of the People's Republic of China, *China Health Statistics Yearbook 2006*.

From 1996 to 2000, the number of rural health centers was reduced by about 4 percent. From 2000 to 2005, the number of rural health centers was reduced by about 17 percent. The number of rural health centers decreased much faster after the health care reform formally started than before. For those existing rural health centers, a shortage of financial budget was the main threat. Many of them had not been in operation. As a result, the “bare-foot doctors” quickly disappeared and nearly all rural communal health centers vanished<sup>7</sup>. This data clearly shows that the healthcare resources had concentrated into urban areas, which were the economic centers in the region. It meant that there was a shortage of health services in rural areas in that period of time. The NCMS scheme, which started in 2003, significantly increased both outpatient and inpatient utilization in rural areas (Wagstaff *et al.* 2007). It may not have been a perfect solution, but at least it was better than nothing for the poor peasants in China.

In this period of time, the number of medical clinics<sup>8</sup> first increased and later dropped. In 1996 the number of medical clinics was 237,153. This number increased to 248,061 in 2001 and then reduced to 207,457 in 2005. From 1996 to 2000, the number of medical clinics increased by about 4.6 percent. From 2001 to 2005, number of medical clinics dropped by 16.4 percent. This tells us that the open market policy first brought a competitive situation, thus many private medical

clinics rose. Then, the weaker players fell out of competition. The large urban general hospitals attracted more patients and pushed the small medical clinics out of business. Then, large urban general hospitals quickly turned into local oligopolies. The number of prophylaxis-treatment centers, epidemic prevention stations and other medical agents also decreased in this period of time. In this event, the market failed to provide public goods and services to the people. This data clearly shows that the market economy tends to funnel resources towards the economic centers and away from the periphery.

Table 1 clearly shows healthcare resources had been drawn into the cities and away from the rural areas. At the same time, the resources in each city were further concentrated in the large hospitals. The structure of health sector had been severely shaken since the beginning of the national economic reform, causing great change in the lives of the people. Inconvenient access to their medical needs mainly caused by the concentration of medical resources in urban hospitals. Whether a person was an outpatient or an inpatient, suffered from a mild cold or a severe illness, lived in the city centers or rural areas, they had to visit the centralized major hospitals for quality services. In this situation, urban hospitals became very crowded as well as expensive for those who sought standard medical treatment.

#### **4. REDISTRIBUTION OF HEALTH EXPENDITURES**

The healthcare reform and related policy changes also impacted health insurance. Before the economic reform of 1980s, urban healthcare laid under the Socialism health coverage system, which was mainly financed by the government budget. Urban patients' out-of-pocket expenses were limited and healthcare was very cheap. In rural areas, many government subsidized health centers and village health offices existed to provide basic healthcare services to peasants at very low cost. For many years, these virtually free medical services had been considered as one of the most favored systems under the Communist regime. Since the adoption of the market economy in 1990s, providers ceased to offer free goods and services to the people. At the same time, the government tried to reduce the federal and local budget. One of the main goals of the healthcare reform in 1998 was to replace the direct Socialist government financing in exchange for a Western model of medical insurance coverage. The health insurance programs were thus set for this purpose. Following the social economic change from the Socialism to Capitalism,

the old universal healthcare coverage was considered as an outdated Socialist phenomenon and thus eliminated by the reform.

The national health expenditures contained three parts: (1) the government financing on public health and administration; (2) individual patients' out-of-pocket healthcare expenses; (3) social health care expenses including non-governmental health insurance coverage<sup>9</sup> and institutional health care coverage paid by employers. As part of the national health expenditures, the definition of "social expenses" has been changing during the reforms. Before the economic reform, social expenses meant the employers' contributions to the universal health insurance coverage in urban areas. Healthcare was almost free to every employee and their family members. As the economic reform moved forward, the private-owned firms would not pay for employees' health insurance, and employees had to pay for the insurance premiums individually. Table 2 below shows the national health expenditures distribution before and after the health care reform.

**Table 2** National health expenditures distribution in 1990-2004  
[Billion RMB Yuan (¥)]

Year	Total national expense	Total as % of GDP	Government expense	Share of government expense	Social expense	Share of social expense	Sum of individual expense	Shares of individual expense
1980	14.323	3.17%	5.191	36.2%	6.097	42.6%	3.035	21.2%
1985	27.900	3.11%	10.765	38.6%	9.196	33.0%	7.939	28.5%
1990	74.739	4.03%	18.728	25.1%	29.310	39.2%	26.701	35.7%
1995	215.513	3.69%	38.734	18.0%	76.781	35.6%	99.998	46.4%
1996	270.942	3.99%	46.161	17.0%	87.566	32.3%	137.215	50.7%
1997	319.671	4.29%	52.356	16.4%	98.406	30.8%	168.909	52.8%
1998	367.872	4.70%	59.006	16.0%	107.103	29.1%	201.763	54.9%
1999	404.750	4.93%	64.096	15.8%	114.599	28.3%	226.055	55.9%
2000	458.663	5.13%	70.952	15.5%	117.194	25.5%	270.517	59.0%
2001	502.593	5.16%	80.061	15.9%	121.143	24.1%	301.389	60.0%
2002	579.003	5.51%	90.851	15.7%	153.938	26.6%	334.214	57.7%
2003	658.410	5.62%	111.694	17.0%	178.850	27.2%	367.866	55.9%
2004	759.029	5.55%	129.358	17.0%	222.535	29.3%	407.135	53.7%

Note: (1) Calculated in current price.

(2) Since 2002, medical school expense was no longer included in the total health expenditures.

Source: Ministry of Health of the People's Republic of China, *China Health Statistics Yearbook 2006*.

The national health expenditures have been rising since the founding of China's Communist government in 1949 as China's GDP increases. The total national health expenditures as percent of GDP also increased. In 1980, the

national health expenditures were only 3.17 percent of the GDO. In 1990, it was 4.03 percent of the GDP. In 2000, it increased to 5.13 percent of GDP. In 2004, it went up to 5.55 percent of GDP, which was RMB ¥759.029 billion. As national income increased, the nation's health expenditures increased at a higher rate. This indicates that the income elasticity of healthcare is positive. The economic reform and healthcare reform changed the contribution of the health expenditures among government, society, and individuals. Back in 1980, the government's share of health expenditures was more than 36.2 percent, the society's share of health expenditures was more than 42.6 percent, and the individual out-of-pocket share of health expenditures was only 21.2 percent. In 1990, the government's share of health expenditures was reduced to 25.1 percent, the society's share was reduced to 39.2 percent, but the individual out-of-pocket share increased to 35.7 percent. In 2001, the government's share of health expenditures dropped to 15.9 percent, the society's share dropped to 24.1 percent, but the individual out-of-pocket share went up to 60 percent. In 2004, the government's share of health expenditures recovered slightly to 17 percent, the society's share also increased slightly to 29.3 percent, but the individual out-of-pocket share still remained as high as 53.7 percent. Since the beginning of the economic reform, employers have been shifting the healthcare cost onto employees in order to reduce business expenses. The individual out-of-pocket share of health expenditures had been increasing since the economic reform started. This means that the individuals bore a heavier burden on healthcare expenses after the economic reform. While the hospital costs had not increased much during this period, individuals who worked for private firms had to take on all the economic burdens of healthcare by themselves. At the beginning of the healthcare reform, healthcare providers (hospitals, health centers, and clinics) moved into the market system before the health insurance system was rebuilt. The market forces and profit driven decisions caused the cost of health services increases, so that people had to bear heavier economic burden of healthcare. The transferring of health expenses from the government and the society to individual patients caused many poor households to fall into poverty. It also made working class people feel insecure. This result was a major failure of the healthcare reform.

One of the achievements of the healthcare reform was the newly established health insurance system. The government health department hoped that this newly established health insurance system could reduce the burden of hospital cost to

individual patients. But due to the lack of administrative experiences in insurance sector, the outcome was not as expected.

### **5. ANALYSIS OF THE HOSPITAL EXPENDITURES VS. INCOME**

Many researchers have studied the increasing health expenditures in China in recent years. Some of the studies focus on the individual's hospital cost for different diseases (Huang, et. al. 2006). Some researches focus on the increase in hospitals' cost, such as the purchase of new medical equipment and their cost of maintenance, which in fact relates to one of the important causes of the increasing health expenditures (Ge, et al. 2006). Other research explores the economic impact of the health insurance system reform (Hu, et al. 1999; Liu 2002; Wang, et. al. 2010). In this section, health expenditures are analyzed from a different perspective. - a closer look at the average medicine expenses as share of the average income.

Table 3 provides information on the change in the average annual disposable income and the change in average individual health expense. To eliminate general inflation effect, the analysis focuses on the ratio of average individual health expense over the average individual income. Since the average income in urban areas is much higher than the average income in rural areas, under the same market price of healthcare, rural residents have to pay much higher percentage of income for healthcare than urban residents do.

This data shows that, in urban areas, the average individual healthcare expense as a percentage of average individual income has obviously increased during this period of time, and in rural areas, the average individual healthcare expense as a percentage of average individual income has dramatically increased during this period of time. In urban areas, this ratio was a little over 4 percent in 1990-1996, increased to above 5 percent in 1997-2002, and went up to 6 percent in 2005. In rural areas, this ratio was less than 13 percent in 1990-1996. Since 1997, the start of the health care reform, this ratio had continuously increased. In 2005, this ratio was up to 20.34 percent. From 1990 to 2005, the ratio of the average health expense over average income had doubled in rural areas. This data shows that the average individual healthcare expense increased much faster than the average individual income did. It is very obvious that, on average, individuals had to take on more and more health expense during the reform period. Without decent

health insurance coverage, Chinese citizens were burdened with a heavy out-of-pocket health care expense.

**Table 3** *Average income and average health expense*

Year	Urban average annual disposable income (RMB ¥)	Rural average annual disposable income (RMB ¥)	National average individual health expense (RMB ¥)	Urban health expense as percent of average income	Rural health expense as percent of average income
1990	1510.2	686.3	65.4	4.33%	9.53%
1991	1700.6	708.6	77.1	4.53%	10.88%
1992	2026.6	784.0	93.6	4.62%	11.94%
1993	2577.4	921.6	116.3	4.51%	12.62%
1994	3496.2	1221.0	146.9	4.20%	12.03%
1995	4283.0	1577.7	177.9	4.15%	11.28%
1996	4838.9	1926.1	221.4	4.58%	11.49%
1997	5160.3	2090.1	258.6	5.01%	12.37%
1998	5425.1	2162.0	294.9	5.44%	13.64%
1999	5854.0	2210.3	321.8	5.50%	14.56%
2000	6280.0	2253.4	361.9	5.76%	16.06%
2001	6859.6	2366.4	393.8	5.74%	16.64%
2002	7702.8	2475.6	450.7	5.85%	18.21%
2003	8472.2	2622.2	509.5	6.01%	19.43%
2004	9421.6	2936.4	583.9	6.02%	19.88%
2005	10493.0	3254.9	662.3	6.03%	20.34%

Sources: National Bureau of Statistics of China, *China Statistics Yearbook 2006* and Ministry of Health of the People's Republic of China, *China Health Statistics Yearbook 2009*.

Public dissatisfaction also comes from the presence of unexpected changes. According to the psychology theory "adaptation level phenomenon,"<sup>10</sup> people have the tendency to form judgments (of sounds, of lights, or of income) relative to a "neutral" level defined by their prior experiences<sup>11</sup>. It states that people will always compare their current circumstances to their recent past. The happiness (or unhappiness) is always relative the prior experience. So if a person currently pays significantly more for the same service than in the recent past, one feels a decrease in the quality of life and becomes unhappy. Because of the fact that the reform came so quickly and the out-of-pocket payment for individual household increased so sharply, the psychological delay on the expected change caused much resentment in the society. Patients were not used to the high hospital costs. Peasants were not used to the big, commercialized urban hospitals. Large amounts of defected and faulty medical products due to lack of government regulations

further angered the public. High profits within pharmaceutical companies along with inadequate patient insurance coverage made the income distribution even more unbalanced. All these unexpected social economic changes, imbalances, and resentment coalesce into the “Failure of healthcare reform.”

## **6. CONCLUSION AND DISCUSSION**

This study reviews the dynamic change of China’s healthcare section before and after the reforms. The statistical analysis of this paper shows the lack of healthcare coverage as a problem that existed when the economic reform started, at least a decade before the healthcare reform formal started. As the direct results of this healthcare reform, medical resources were quickly concentrated in urban hospitals and the individual out-of-pocket expense as the share of total health expenditures increased sharply. The rise of health expenses moved faster than the increase of average income. Newly established health insurance programs in both urban and rural areas were helpful to some people, but it has a long way to go in relieving most people’s economic burden of healthcare expenses. In the healthcare market, the shifting of supply and increasing demand also caused the healthcare expense to rise in the last decade. The next question is who should pay for these high cost healthcare services? This is the key problem in the healthcare reform. Several suggestions are made as follows.

### **6.1 Urban-rural dual system in healthcare sector**

Because of the huge economic difference between rural and urban areas in China, the health care system should have different formats in these two kinds of societies. In rural areas, income level is still very low; people have little education about healthcare and insurance claims; and many areas are as poor as in the least developed countries. The free market system cannot be depended upon to solve the problem of income redistribution. Therefore governmental aids to health care must be deployed. Rural health centers, financed by government to provide virtually free services to peasants, should continue to play the main role in poor rural area. In the less developed areas, this model will work more effectively than the market system. The modern health insurance scheme can be deployed when these rural areas become more economically developed. Meanwhile in urban areas, since the income level has already reached the median of developing countries and some major cities are already industrialized, the healthcare sector can be merged into the

market economy. The health insurance scheme can play a major role in the health care sector. In this way, the burden of government expenditures as well as the financial risk can be reduced by a certain degree, at the same time this can redistribute the healthcare resources more rationally in the long run.

### **6.2 Public goods and private goods in healthcare sector**

Healthcare services should be distinguished into two parts: public goods and private goods. Since infectious diseases have severe negative externality (such as SARS and AIDS<sup>12</sup>), the epidemic prevention and treatment must be considered as public goods. The research into finding cures for these diseases is also public good. Those public goods, which have lost funding in the past, should be continually financed by government tax revenue. Since the non-infectious diseases do not have as much negative externality to the society (such as heart disease, cancer, and diabetes), these medical treatments should be considered as private goods, and belong to the individual's responsibility. Therefore, the cost of non-infectious disease treatment should be paid by insurance companies (collective financing) and individual patients (user fees).

### **6.3 Health insurance is the key to the reform**

The healthcare system in the past, a system completely financed by the government, is no longer suitable to the new age economy in China. The central government cannot afford to have universal healthcare coverage for every citizen in the entire country. These years of experimental health care reform tell us that we also cannot totally depend upon the market system to distribute the costs and benefits. In such a case, the healthcare resources were unequally distributed, that caused much resentment and unhappiness. While the government expected the newly established health insurance to carry the burdens of the health expenditures, the public believed that this health insurance system did not cover enough expense. Fine tuning the health insurance system would reduce the pressure of patients' economic burden and unhappiness. The government policy makers should emphasis on establishing a better health insurance system.

Neither total government control nor total market enforcement will work well in China's healthcare sector. No foreign health care model will fit perfectly into China's situation. Therefore, the healthcare reform should combine both governmental administration and market function, based on regional economic conditions and culture differences. Since there is a huge social economic gap

between urban and rural areas in China, the healthcare systems and reforms in these two areas are not the same. This research only focuses on major themes in healthcare reform. As a limitation, it does not differentiate between the reform impacts in urban and rural areas in detail. Further study can be done on how healthcare reform impacts a particular area.

#### 6.4 Lessons for Emerging Nations

While the major focus of this research was China, it should be noted that the entire conclusion section is applicable to any emerging and developing nation. While it may, in the short term, seem prudent to copy the successes of an entrenched capitalistic system for economic reform, applying this same model across the board to health reform seems questionable. This is supported by the research here, especially when private and public sectors cross boundaries. The suggestions here for some combination of capitalistic and socialized systems is certainly warranted. This also allows for the adaptation of best practices from other environments into differentiated cultures. Perhaps each nation/state could first assess their own strengths in private and public reform and THEN adapt modified programs from the more supposedly advanced nations.

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<sup>1</sup> Severe acute respiratory syndrome.

<sup>2</sup> Employees and their family members' hospital expense could be reimbursed by the employers.

<sup>3</sup> Among "bare-foot doctors", some of them were medical doctors and nurses from urban hospitals; most of them were rural health workers with a little medical training.

<sup>4</sup> In reality, most of urban hospitals were registered as non-profit organization.

<sup>5</sup> The number of people enrolled in new urban health insurance was 94 million out of 502.12 million urban residents in 2002, 109 million out of 523.76 million urban residents in 2003, and 124 million out of 542.83 million urban residents in 2004 (Annual Labor Statistics 2005 & Annual Labor and Social Security Statistics 2005, Ministry of Labor and Social Security, P. R. China).

<sup>6</sup> According to NCMS, households' contributions started from RMB ¥10 per person and paid on a voluntary basis - will be supplemented by a RMB ¥10 subsidy from local governments, and by a RMB ¥10 matching subsidy from central government in the case of household living in the poorer central and western provinces. The NCMS is being piloted in more than 300 of China's more than 2000 counties in 2003.

<sup>7</sup> Many rural communal health centers were still listed in the government's registration, while they no longer were in business.

<sup>8</sup> Medical clinics included community and private individual medical practitioners.

<sup>9</sup> The shares of insurance premium between employers and employees vary during the reform period.

<sup>10</sup> This theory was first described by Harry Helson.

<sup>11</sup> Myers, D. G. (2007). *Psychology* (8th edition, p. 542), New York: Worth.

<sup>12</sup> Acquired immune deficiency syndrome.

# THE AGRICULTURAL INDUSTRY AND ECONOMIC GROWTH IN SOUTH AFRICA – AN EMPIRICAL ANALYSIS

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***Abstract:** This study measures the source of short-term agricultural economic growth in South Africa, using the Exact Maximum Likelihood (EML) method by categorizing the variables into five main categories: cyclical reversion, structural policies and institutions, stabilization policies, cyclical volatility and external conditions.*

*The statistically significant finding of structural policies and institutional category variables imply that the sector growth was achieved with improved education, financial depth, and trade openness. However, the negative relationship of financial depth (RDGDP) indicates the sector is suffering from a debt crisis. Therefore, farmers need to follow an effective debt management system. The cyclical reversion was found to be statistically significant and related negatively. This shows that there is an important connection between the business cycle and agricultural economic growth.*

***Keywords:** agricultural sector, South Africa, Debt crisis, economic growth, cyclical reversion*

***JEL Codes:** Q13, Q18*

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## 1. INTRODUCTION

The positive relationship between agricultural growth and overall economic growth is empirically well established (Kieran and Karl, 2007). Evidence consistently shows that agricultural growth is highly effective in reducing poverty. Gallup *et al* (1997) (in Department for International Development (DFID), 2005) show that every 1% increase in per capita agricultural output leads to a 1.61% increase in the income of the poor. However, developing countries are still ineffective in reducing poverty (Romea and Marcelle, 1998).

From 1970 to 2002 South Africa's average annual contribution of the agricultural sector to the total GDP and to employment has dropped by 0.09% and 0.22% respectively. To aggravate matters, the South African economy is characterised by high levels of poverty, especially in the rural areas where approximately 70 % of poor people reside. Where almost all the productive and social activities of rural towns and services are dependent on primary agriculture and related activities (NDA, 2005). This makes it complicated to reach government objectives.

This study measures the determinants and the source of short -term agricultural economic growth in South Africa. More specifically, estimates agricultural growth regression with its set of explanatory variables postulated as growth determinates.

Although the study does not deal directly with the long-term relationship between growth and its determinants, but it accounts indirectly for it by including cyclical output movements.

## 2. LITERATURE REVIEW ON ECONOMIC GROWTH

The shortcoming of the neoclassical model is defining economic growth within the context of diminishing returns. The theory states that the application of additional resources yields less than the proportional increases in output (Sam, 1976 in Norman and Soto, 2003). This implies that developed countries experience diminishing returns although they invest more. Furthermore, this theory predicts that the return differentials generated by large gaps in the capital stocks will produce massive capital flows from rich to poor countries. Both implications are strongly rejected by evidence (Norman and Soto, 2003).

The weakness of the neoclassical growth model led several researchers to propose alternatives. Romer (1986) presents a model in which economic growth

occurs not only because of exogenous technological progress, but also as a result of capital accumulation endogenous to the sector that compensates for diminishing returns. Lucas (1988), another pioneer of economic growth research, introduces a model in which human capital plays a fundamental role in perpetuating economic growth and preventing the diminishing of capital accumulation.

Keller (2002) identifies three defining characteristics of research on growth: first, the close connection between theories, empirical data and methods used to the test relationship between economic growth and its determinates; second, the emphasis on endogenous technological progress, in particular the types; that generate increasing returns on the monopolistic competition; and third, the merging of different strands of economics, the interaction between macroeconomics, the business cycle, and economic development. These considerations are centred on institutional analysis and economic planning.

### **3. DETERMINATES OF ECONOMIC GROWTH**

A large variety of economic and social variables may be proposed as determinants of economic growth. This study defines and categorises the economic growth determinants as they appear in Norman and Raimundo (2002). The variables are divided into five groups: cyclical reversion, structural policies and institutions, stabilisation policies, transitional convergence (cyclical volatility) and external conditions.

#### **3.1 Cyclical reversion**

Aghion *et al.*, (2004) show that: more volatility means more investment risk, which tends to discourage investment and thereby slow down growth. This effect, however, may be partly or totally offset by the precautionary motive for savings: more volatility also means more income risk, which tends to raise precautionary savings, which in turn encourages investment and boosts growth. If the variable is defined as actual minus potential GDP, the expected sign will be negative.

This study follows the general modelling of Norman and Raimundo (2002) to account for the cyclical effect.

#### **3.2 Structural policies and institutions**

The overall success of industries is dependent on the structural policies and institutions (Levine *et al.*, 2000). They can influence the determinants either positively or negatively (Van Rooyen *et al.*, 1999).

Education is the first area of structural policies and institutions to be considered. Education represents the human capital formation in general. It may serve as a complement to physical, capital, and natural resources. It may furthermore, facilitate technological innovations and technological adoption. In this study, education is measured as the ratio of primary and secondary school enrolment over the total population between the age of 15 and 64 (Easterly, 2001).

The second variable to be examined relates to financial depth. Well-functioning financial markets promote economic growth and influence economic efficiency. This facilitates risk diversification by trading, pooling, and hedging financial instruments (Levine, *et al.*, 2000). Financial depth is measured by the ratio of domestic farming credit compared to GDP (Norman and Raimundo, 2002).

The third category is the open trade policy (measured by the ratio of import and export to GDP). Researchers point-out five channels through which trade influences economic growth (Lederman and Luisea, 1997):

- Open trade leads to higher specialisation;
- It expands potential markets, which allow domestic firms to take advantage of economies of scale;
- Open trade diffuses both technological innovations and improved managerial practices;
- Freer trade tends to lessen anticompetitive practices of domestic firms; and
- In the final instance, trade liberalisation reduces the incentives of industries to conduct rent-seeking activities that are mostly unproductive.

The bulk of the empirical evidence indicates that the relationship between economic growth and international openness is indeed positive, and that it reflects a virtuous cycle: trade openness leads to economic growth, economic growth to technological spillover which, in turn, generates a large volume of trade (Lederman and Luisea, 1997).

The fourth variable regarding structural policy and institutions is government spending. When government invests in rural infrastructure, agricultural research, health, and education, it can stimulate agricultural growth. Government spending can lead to greater employment and income-earning opportunities and cheaper food prices. Well structured and effectively managed government spending can enhance investments, such as in agricultural research and development, irrigation, rural infrastructure (including roads and electricity), and rural development which is targeted directly to the rural poor. Thus, it can contribute directly to poverty

reduction in rural communities (DFID, 2005). Government expenditure is accounted through a proxy, by the ratio of government expenditure to GDP.

### **3.3 Stabilisation policies**

Including stabilisation policies as a determinant not only affects the cyclical fluctuations, but also long-term growth. An argument may be made for cyclical and trend growth as interrelated processes (see Fatás, Mihov and Ros, 2004), which implies that macroeconomic stabilisation and crisis-related variables have an impact on short-term horizons and the long-term performance of the economy (see Fischer, 1993). Fiscal, monetary, and financial policies that contribute to stabilise the macroeconomic environment and avoid financial and balance-of-payments crises are thus important for long-term growth. By reducing uncertainty, encouraging firm investment, reducing societal disputes for the distribution of ex post rents (for instance between owners and employees in the face of unexpected high inflation), and allowing economic agents to concentrate on productive activities (rather than trying to manage high risk), growth can be facilitated (Fisher, 1993). This is measured by the consumer price index.

### **3.4 Transitional convergence (cyclical volatility)**

This study considers two interrelated effects of fiscal and monetary policies. The first is price stability, which is measured by the average inflation rate. The second aspect is the cyclical volatility of GDP (measured by the standard deviation of the output gap), which reflects the output stability (Dollar and Kraay, 2004).

The risk of balance-of-payments crises is measured by an index of real exchange rate overvaluation. Real exchange rate overvaluation captures the impact of monetary and exchange rate policies that distort the allocation of resources between the export and domestic sectors (Levine *et al.*, 2000).

### **3.5 External condition**

This study takes external conditions into account by including terms of trade and the dummy variable for the period of trade liberalisation (takes one after 1998 period of liberalisation, otherwise zero). Terms-of-trade measures changes in the international demand for a country's exports and the cost of production (consumption inputs) (Norman and Raimundo, 2002). Since, it is difficult to get the cost of production, this study uses capital formation. Trade liberalisation is

included to measure the effect of trade agreement on agricultural growth and is represented by the dummy variable.

#### 4. METHODOLOGY AND DATA

Before model specification, it is important to explain the characteristics of the Exact Maximum Likelihood (EML) method. The growing empirical literature on EML estimation demonstrates the efficiency and consistency of the method; in its repeated sampling principle estimation procedures. The advantage of EML is the dependability of the long- term range process and characterisation because of the high intensive computational dimension system as used by Lardic and Mignon (2004).

According to Emmanuel, Sandrine and Val' Erie (2004), the EML method procedure is used as a residual-based test of the hypothesis of no co-integration versus the alternative of fractional co-integration. The pertinence of the method lies in using all information concerning the short- and long-term behaviour of the series since it estimates all parameters of the Auto-Regressive Fractionally Integrated Moving Average (ARFIMA) (p, d, q) estimation procedures representation simultaneously. Moreover, the application allows to test the null hypothesis of a unit root ( $d = 1$ ) against the alternative of fractional integration ( $d < 1$ ).

Following the general modelling of Norman and Raimundo (2002), the study uses Exact Maximum Likelihood to estimate the variation of a growth regression:

$$y_{it} - y_{it-1} = \alpha y_{it-1} + \alpha_c (y_{it-1} - y_{it-1}^T) + \beta X_{it} + \varepsilon$$

Where  $y$  is the log of per capita output,  $y^T$  represents the trend component of per capita output,  $(y_{it-1} - y_{it-1}^T)$  is the output gap at the start of the period,  $X$  is a set of variables postulated as growth determinants, a period-specific period,  $\varepsilon$  represents unobserved factors or error term. The expression on the left-hand side of the equation is growth rate per capita output in a given period. On the right-hand side, the regression equation includes the level of per capita output at the start of the period (to account for transitional convergence) and a set of explanatory variables measured during the same period. The inclusion of the output gap as an explanatory variable allows controlling for cyclical output movements (see appendix for variables definition).

To apply the above method, secondary data are used from sources such as the South African Reserve Bank, Statistics South Africa, National Department of Agriculture, United Nations Development Programme (UNDP) and Food Agricultural Organisation (FAO). The data observation was from 1970 to 2005.

## 5. RESULTS AND DISCUSSION

In this section, the necessary statistical test has to be done before the model estimation. The first section deals with the stationarity test, while the next section deals with the model estimation.

### 5.1. Stationarity test (Unit root tests)

Previous studies indicate that time series data, be it monthly, quarterly or annual, are likely to be non-stationary (see for example, Bakucs and Ferto, 2005; Cho, Kim and Koo, 2004). In this study, the Augmented Dickey-Fuller (ADF) unit root test, with and without a linear trend, is performed to test for the stationarity of the variables considered. The ADF test with a linear trend checks if the variables are trend stationary.

Following the above technique the standard practice of unit root tests literature, both the level and first difference of each data series was tested; the results are presented in Table 4.

In this study, the Augmented Dickey -Fuller (ADF) unit root test, with and without a linear trend is performed. The ADF test with a linear trend checks for the trend stationarity of the variables. The results are presented in Table 4. Since the ADF test is sensitive to the choice of order of the lag, the starting point was the over specification ADF test where the order of the lag was relatively larger and corresponds to the highest (absolute value) Akaike Information Criterion (AIC).

From Table 4 the absolute values of the ADF test in level shows that it is statistically higher than the 95 percent critical value in the first six variables (Table 4), suggesting the null hypothesis of the unit root is rejected. Conversely, in the latter five variables (Table 4), the test shows that it is statistically lower than the 95 percent critical value. This suggests that the null hypothesis of the (latter five variables) unit root is not rejected and none of these five variables are (trend) stationary in levels at a 5 percent significance level. Each series was differenced and the ADF test performed. The results of the latter five variables show that all the

series tested are not stationary in (log) levels, but stationary at a 5 percent significance level after being differenced once.

**Table 4** *ADF test results – with and without trend*

	Specification	In levels		Differenced once			
		Lags	Critical value	Test statistics	Lags	Critical value	Test statistics
gGDPc	constant only	1	-2.9627	-4.8977			
	constant with trend	3	-3.5671	-4.3943			
OUTgap	constant only	1	-2.9627	-4.6851			
	constant with trend	3	-3.5671	-4.3115			
ALI	constant only	1	-2.9627	-3.8355			
	constant with trend	1	-3.5671	-3.9226			
RDGDP	constant only	1	-2.9627	-4.0596			
	constant with trend	1	-3.5671	-4.0148			
TOT	constant only	1	-2.9627	-3.3655			
	constant with trend	1	-3.5671	-3.8933			
STDoutg	constant only	4	-2.9665	-4.0595			
	constant with trend	4	-3.5731	-4.5129			
Trade	constant only	1	-2.9627	-1.6291	1	-2.9665	-5.4635
	constant with trend	1	-3.5671	-3.1152	1	-3.5731	-5.3674
GOVexp	constant only	1	-2.9627	-1.5782	1	-2.9665	-4.0154
	constant with trend	1	-3.5671	-1.7595	1	-3.5731	-3.8851
CPI	constant only	3	-2.9627	0.020273	2	-2.9665	-5.345
	constant with trend	3	-3.5671	-1.7779	2	-3.5731	-5.9485
RER	constant only	3	-2.9627	-1.191	1	-2.9665	-4.1011
	constant with trend	3	-3.5671	-3.0287	1	-3.5731	-4.0219
D1	constant only	1	-2.9627	-0.5039	1	-2.9665	-3.8079
	constant with trend	1	-3.5671	-1.7478	1	-3.5731	-3.9001

95% critical value for the augmented Dickey-Fuller statistic

## 5.2. Model estimation

On the basis of results obtained from Table 5, the techniques described in the methodology were applied. The overall explanatory power is at 87 percent. Except for CPI, RER and D1 (not significant at the specified significance level and not reported in Table 5) all other variables were found to be statistically significant at the specified significance level.

The cyclical reversion as one of the determinants and a source of agricultural growth was found to be negative and significant at the indicated significance level

(see Table 5). This implies that the agriculture economy follows a reverting trend process to close the output gap. However, the effect to close the gap was not sizable: for example according the point estimate, if initial output, say 5 percent estimated potential output, the economy is expected to grow by about 1.4 percentages in the following year.

**Table 5** *Maximum Likelihood Estimation (MLE), determinates of agricultural GDP growth, data from 1971-2005*

Independent variable	Estimated coefficient	T-ratio  Prob
<b>Cyclical reversion</b>		
OUTGAP	-0.28	-3.38*
<b>Structural policies and institutions</b>		
Education (ALI)	0.47	2.93*
Financial depth (RDGDP)	-0.56	-5.96*
Trade openness (TRADE)	1.21	2.87*
Government support (GOVEXP)	1.03	1.78***
<b>Stabilisation policies</b>		
Lack of price stability (CPI)	0.17	0.41
<b>Cyclical volatility</b>		
Standard deviation of output gap(STDGAP)	0.33	2.20**
Real Exchange overvaluation (RER)	0.087	1.36
<b>External factors</b>		
Term of trade (TOT)	-0.035	-3.46*
Trade liberalisation (D)	0.020	0.45
Intercept	0.55	
R <sup>2</sup>	0.91	
Adjusted R <sup>2</sup>	0.87	
Durbin Watson stat	1.63	

\*, \*\* and \*\*\* denotes significance at the 1, 5, and 10 percent level respectively

Results related to structural policies and institution indicators of growth were presented in Table 5. The variables related to this category are Education (ALI), financial depth (RDGDP), Trade openness (TRADE) and Government support (GOVEXP). All variables (except RDGDP) were found to be positively related to growth and statistically significant at the specified significance level. This result implies that the agricultural sector could only be improved with a better educational attainments, financial institutions, and trade openness. However, the result shows that the agricultural sector lacks effective and efficient debt management (which is a necessary prerequisite for sustainable economic growth). For example, a 10 percent increase in secondary school enrolment has resulted in

agricultural growth by 0.49 percent; whereas, an increase of 10 percent in the current debt leads to a decline in agricultural growth by 6 percent (see Table 5). Therefore, the result shows that the burden of debt crisis was a critical problem in the South African agricultural sector. The study was found to be consistent with the vast amount of empirical literature on endogenous growth, including Norman and Raimundo's (2002) research on the role of education, trade, and government burden; Dollar's (2004) findings on the role of trade openness; and the study of Levine *et al.*, (2000) on the role of financial depth.

From Table 5 model estimation TRADE (as proxy for openness) was found to be statistically significant at 1 percent. This implies that agricultural industries were able to increase specialisation and adopt a competitive environment (see Table 5). The study also shows that government support for agriculture is vital; an increase of 10 percent in government expenditure was found to increase economic growth by 10.2 percent.

Stabilisation policy (inflation represented by CPI) as a determinant of economic growth was found to be too insignificant to be reported (see Table 5). However, research reviews show that economic growth generally increases when government is able to carry out policies conducive to macroeconomic stability, including the presence of financial and external crises (Fischer, 1993).

The standard deviation of the out gap (STDOUG) was found to be positive and significant, whereas real exchange rate was found to be too insignificant to be reported (see Table 5). This reveals that there was an important connection between the business cycle and agricultural economic growth. The standard deviation of the output gap reflects a lack of output stability in the sector. This might be due to the volatile nature of the agricultural sector (characterised by drought and other related risks in agriculture) causing it to lack stability.

The last category of this study was external factors (see Table 5). Term of trade was found to be statistically significant and negatively related to growth. This implies that there were imbalances in terms of trade that slowed down the agricultural economy's growth rate; whereas the dummy variable for trade liberalisation (D1) was found to be too insignificant to be reported. This might be due to the short period of observation of trade liberalisation (after 1998) which was unable to be captured on the model; or this might imply some complication related to trade arrangements that needs revised consideration in order to reap a greater benefit from the trade agreement.

## 6. CONCLUSION

The determinants and the ability of agricultural economic growth to adjust were analysed into five main categories: cyclical reversion, structural policies and institutions, stabilisation policies, cyclical volatility and external conditions.

In the component of structural policies and institutions category, variables were found to be statistically significant at the specified significance level and except for RDGDP, all variables were found to be positively related to growth. This implies that South African agricultural growth was achieved with improved education, financial depth, and trade openness. However, the negative relationship of RDGDP implies that the sector is suffering from a debt crisis. Therefore, farmers need to follow an effective debt management system to achieve the required growth rate. This study was also found to be consistent with the vast amount of empirical literature on endogenous growth, including that of Norman and Raimundo (2002), on the role of education, trade, and government burden; Dollar (2004), on the role of trade openness; and Levine *et al.* (2000), on the role of financial depth.

From cyclical reversion and cyclical volatility categories, the standard deviation out gap was found to be statistically significant and related positively. This implies that the agricultural economy follows a reverting trend process to close the output gap, thus, showing that there was an important connection between business cycle factors and agricultural economic growth in the business cycle factors.

The external factor category was statistically significant and negatively related. This reveals that there were imbalances in trade that slowed down the agricultural growth rate.

## 7. APPENDIX

### Variable definitions

1. gGDPc is the percentage change in agricultural growth  

$$(\ln GDP_t - \ln GDP_{t-1}) / \ln GDP_t$$
2. Outputg (output gap) is the difference between the log of actual GDP (log ) and potential GDP
3. Adult literacy (Ali) is the ratio of total primary and secondary school enrolments to the population of the age group population between age 15 and 64
4. RDGDP is change in the ratio of total agricultural debt to the agricultural GDP (log form)

5. Trade is the difference between log export and import to the log agric GDP
6. Govexp is the difference between the current and the previous year of government exp (log) divided by GDP (in log)
7. CPI is the difference between the actual and the potential of CPI (proxy for inflation)
8. Cyclical volatility of GDP (Stdoutg) is the standard deviation between the actual and the potential of output gap of GDP
9. Real Exchange Rate (RER) is the difference between actual RER (in log) and potential RER (in log)
10. Term of trade (TOT) as one of the external factors category is measured by the ratio export to the total capital formation (in log) in agriculture as proxy for balance of trade payment.
11. Dummy for trade liberalisation (D1), that takes prior year 1998 is zero, otherwise one

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# COMPARATIVE ADVANTAGE: THEORY, EMPIRICAL MEASURES AND CASE STUDIES

Tri WIDODO\*

***Abstract:** This paper consists of three main parts i.e. theory, analytical tool and case studies of comparative advantage. Firstly, we review the theory and various empirical measures of comparative advantage. We would argue that for the catching-up economies, like ASEAN countries, the meaning of “leading exported products” could be examined from the two points of view i.e. international competitiveness and country’s trade balance. Secondly, we combine two indexes of comparative advantage, i.e. Revealed Symmetric Comparative Advantage (RSCA) index by Dalum et al. (1998) and Laursen (1998), and Trade Balance Index (TBI) by Lafay (1992), which represent well the two points of view, to propose an analytical tool, namely “products mapping”. Thirdly, this analytical tool is applied to analyze exported products (defined as 3-digit SITC Revision 2) of the ASEAN countries. This paper concludes that in the cases of ASEAN countries, the higher the comparative advantage for a specific product, the higher the possibility of the country as a net-exporter becomes. This finding strongly supports the theory of comparative advantage.*

***Keywords:** Revealed Comparative Advantage, Trade Balance, Products Mapping.*

***JEL Codes:** E00, E01, E13*

## 1. INTRODUCTION

In the theories of international trade, comparative advantage is an important concept for explaining pattern of trade. David Ricardo (1817) firstly introduces the concept of comparative advantage with very strict assumptions. It is then well recognized as the Ricardian model. In the modern theories of international trade,

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such strict assumptions are replaced with the more realistic ones. Heckscher (1919) and Ohlin (1933) examine the effect of different factor endowments on international trade. Their model, which is well known as the Heckscher-Ohlin (H-O) model, concludes that a country will export commodity uses the abundant factor of production, while it will import commodity uses the scarce factor of production. Some other new models also relaxing the several assumptions have emerged such as the imitation lag hypothesis (Posner, 1961), the Linder model (Linder, 1961), the flying geese model (Akamatsu, 1961, 1962), the gravity model (Tinbergen, 1962), the product cycle theory (Vernon, 1966), the Krugman model (Krugman, 1979), and the reciprocal dumping model (Brander, 1981; Brander and Krugman, 1983).

The appearances of such new models have not reduced the popularity of comparative advantage concept, which recently becomes dynamic one. Some economists argue that a country's comparative advantage is dynamic, instead of static. So far, the dynamic theory of comparative advantage has put greater attention on the changes in supply (production) side. This is related to how specific determinants affect the output (economic) growth and, in turn, comparative advantage. Redding (2004) finds that comparative advantage is endogenously determined by the past technological changes and innovation. The dynamics of comparative advantage might be also caused by the role of input trade (Jones, 2000), the friction in international trade and investment flows due to geography, institutions, transport, and information cost (Venables, 2001), the transmission of knowledge across borders (Grossman and Helpman, 1991), the technological differences across border (Trefler, 1995), and the monopolistic competition in differentiated products with increasing return to scale (Krugman, 1979). Indeed, many applied economists, e.g. Liesner (1958), Kanamori (1964), Balassa (1965), Donges and Riedel (1977), Bowen (1983), Vollrath (1991), Dalum *et al.* (1998) and Laursen (1998), among others, have tried to make various empirical measures to "reveal" countries' comparative advantage.

This paper aims to review the concept and empirical measures of comparative advantage and to derive an analytical tool, namely "products mapping", which is suitable for analyzing comparative advantage of the catching-up economies, like the ASEAN (Association of Southeast Asian Nations) countries. The remainder of this paper consists of five parts. Part 2 describes briefly literature review on the theory of comparative advantage, starting from the Ricardian model to the dynamic comparative advantage. Part 3 presents various

empirical measures of comparative advantage. In Part 4, we propose an analytical tool, namely “products mapping”. We would argue that, for the catching-up economies, the meaning of “leading exported products” could be examined from two points of view i.e. international competitiveness and country’s trade balance. We combine two indexes, i.e. Revealed Symmetric Comparative Advantage (RSCA) by Dalum *et al.* (1998) and Laursen (1998); and Trade Balance Index (TBI) by Lafay (1992), which represent well the two points of view, to create an analytical tool, namely “products mapping”. The analytical tool is then applied to analyze exports of the (ASEAN) countries, as the case studies. The empirical results are described in Part 5. Finally, several conclusions are presented in Part 6.

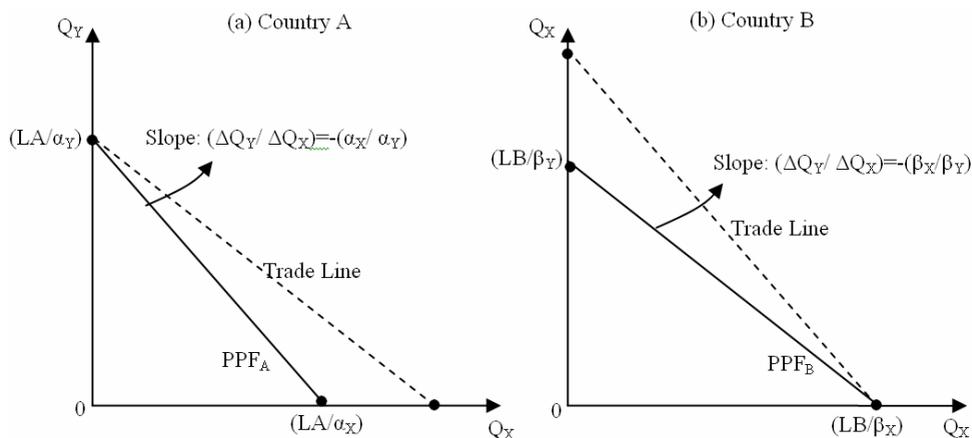
## **2. LITERATURE REVIEW: FROM STATIC TO DYNAMIC COMPARATIVE ADVANTAGE**

### **2.1 The Ricardian model**

The principle of comparative advantage postulates that a nation will export the goods or services in which it has its greatest comparative advantage and import those in which it has the least comparative advantage (Ricardo, 1817). The term “comparative” means relative not necessarily absolute. The Ricardian model is based on several strict assumptions: (1) fixed endowment of (identical) resources, (2) factors of production are completely mobile between alternative uses within a country, (3) factors of production are completely immobile externally, (3) a labor theory of value<sup>1</sup> is employed in the model, (4) the level of technology is fixed for both countries, (5) unit costs of production are constant, (6) there is full employment, (7) perfect competition, (8) no government-imposed obstacles to economic activity, (9) internal and external transportation costs are zero, (10) for simple analysis: a 2-country, 2-commodity “world” (Appleyard and Field, 2001).

Suppose there are two countries A and B, which produce two commodities X and Y. For country A, let us denote  $\alpha_X$  and  $\alpha_Y$  are the unit labor requirements in X and Y, respectively;  $Q_X$  and  $Q_Y$  are quantities of X and Y, respectively; and  $LA$  is total labor supply. Meanwhile, for country B, let us denote  $\beta_X$  and  $\beta_Y$  are the unit labor requirements in X and Y, respectively; and  $LB$  is total labor supply. The production possibility frontiers (PPF)<sup>2</sup> for both countries A and B are represented by  $\alpha_X Q_X + \alpha_Y Q_Y = LA$  and  $\beta_X Q_X + \beta_Y Q_Y = LB$ , respectively. These two PPFs are

represented in Figure 1. Hence, the slopes of PPFs for countries A and B are  $(-\alpha_X/\alpha_Y)$  and  $(-\beta_X/\beta_Y)$ , respectively.



**Figure 1** *The Ricardian Model*

The slope  $(\alpha_X/\alpha_Y)$  is steeper than  $(\beta_X/\beta_Y)$ . This indicates that X is relatively more expensive (in term of  $Y^3$ ) in country A than that in country B, while Y is relatively cheaper (in term of X) in country A than that in country B. Country A will have a full specialization in Y, and country will have a full specialization in X. Each country can reach higher level of consumption by trading along the trade line (represented by the broken line). The possible terms of trade (TOT) lie in the range:  $(\beta_X/\beta_Y) \leq \text{TOT} \leq (\alpha_X/\alpha_Y)$ .

## 2.2 Neoclassical comparative advantage

In the neoclassical theory of international trade, the constant cost assumption applied in the Ricardian model is replaced with a more realistic assumption, increasing marginal cost. This assumption is represented by the concavity<sup>4</sup> of PPF. Suppose two countries A and B have production possibility frontiers (PPF) and community indifference curves<sup>5</sup> (CICs) shown by Panels (a) and (b) in Figure 2. Let us denote  $P_X$  and  $P_Y$  are prices of X and Y. The autarky equilibriums of production and consumption are at point  $E_A$  with the relative prices  $(P_X/P_Y)_A$  in the case of country A and at  $E_B$  with the relative prices  $(P_X/P_Y)_B$  in the case of country B. In Figure 2,  $(P_X/P_Y)_A$  is higher than  $(P_X/P_Y)_B$ , country A will specialize in Y, while country B will specialize in X<sup>6</sup>. Both countries A and B can gain from trade with applying possible terms of trade ( $\text{TOT}_{\text{Int}}$ ):  $(P_X/P_Y)_B \leq \text{TOT}_{\text{Int}} \leq (P_X/P_Y)_A$ . With this  $\text{TOT}_{\text{Int}}$ , both countries A and B could reach higher CICs. It is clearly shown

that the autarky equilibriums are determined by PPF and CIC. The volume of trade is shown by the shaded triangles.

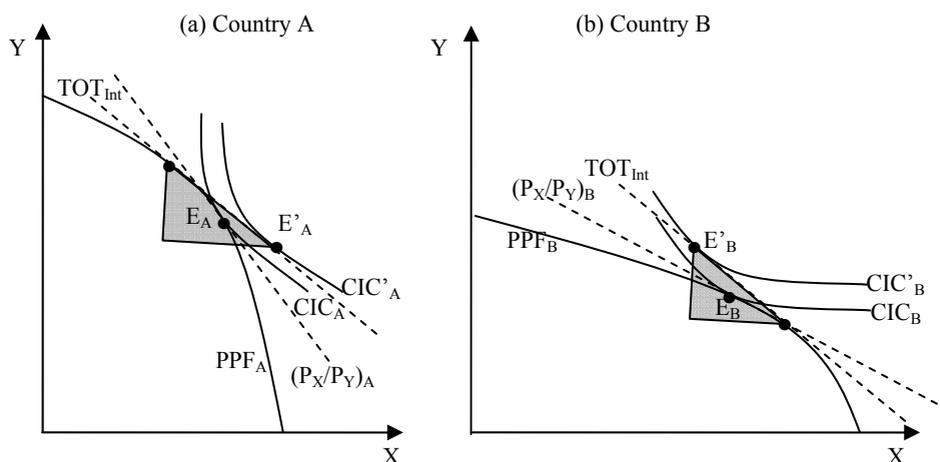


Figure 2 Neoclassical Gains from Trade

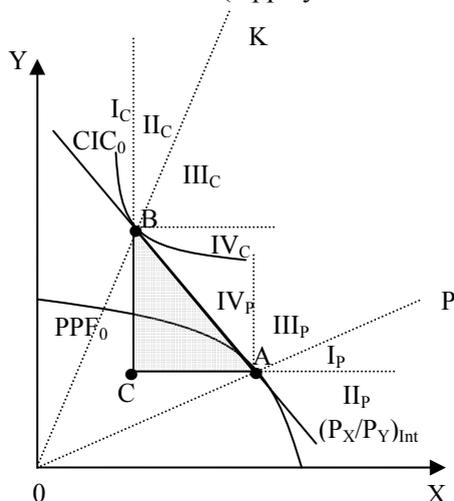
### 2.3 Dynamic comparative advantage

A country's comparative advantage might change due to the changes in supply and demand sides in both domestic and international markets. The supply side is related to PPF; while, the demand side is related to community preferences. On this matter, Echevarria (2008) finds that in the long run, comparative advantage is driven by total factor productivity (TFP) differential. This explains the fact that less developed countries are likely to export primary commodities even though they are not less capital-intensive. In addition, non-homothetic preferences imply fewer countries export only or mostly primary commodities as the global economy develops.

To describe dynamic comparative advantage, let us suppose a small country (price taker in international market) uses its available inputs labor ( $L$ ) and capital ( $K$ ) to produce competing outputs  $X$  (*labor-intensive* good) and  $Y$  (*capital-intensive* good). Let us assume the country is relatively a labor-abundant country. In addition, the country has a production possibility frontier (PPF) and a community indifference curve (CIC), as depicted by PPF<sub>0</sub> and CIC<sub>0</sub> in Figure 3, respectively. The international term of trade is  $(P_X/P_Y)_{Int}$ . The initial equilibriums in both production and consumption are at points A and B, respectively. The volume

of international trade is depicted by the triangle ABC i.e. exports of X (quantity: CA) for the imports of Y (quantity: CB).

With economic growth, the PPF shifts outward, allowing the country to choose different production combinations of X and Y. The various new possible equilibriums in production are located within the regions fixed by the mini-axes drawn through the original production equilibrium at point A. If the new equilibrium in production lies on the straight line OP, the economic growth is *product-neutral*, since productions of the export good and the import competing good have increased in the same rate. If the new equilibrium lies in region I<sub>p</sub>, it is *protrade-biased* (reflecting the relatively greater availability of the export good); in region II<sub>p</sub>, it is *ultra-protrade-biased*; in region III<sub>p</sub>, it is *antitrade-biased* (reflecting the relatively greater availability of the import-competing good); and in the region IV<sub>p</sub>, it is *ultra-antitrade-biased* (Appleyard and Field, 2001).



**Figure 3** *Equilibriums in Production and Consumption*

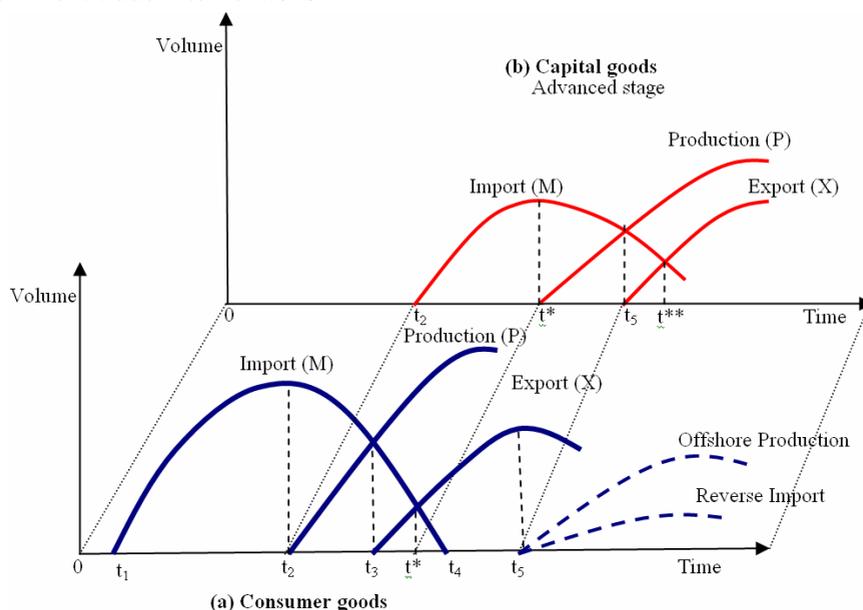
In addition, the economic growth will also affect the consumption equilibrium. The consumption effect of growth on trade can be isolated by the mini-axes whose origin is at initial consumption equilibrium B. If the new equilibrium point is on the straight line OK, consumption of both goods X and Y will increase proportionally and the consumption trade effect will be *neutral*. If the new consumption equilibrium point falls in region I<sub>C</sub>, it is a *pro-trade consumption* effect; in region II<sub>C</sub>, it is an *ultra-protrade consumption* effect; in region III<sub>C</sub>, it is an *anti-trade consumption* effect; and in region IV<sub>C</sub>, it is *ultra-antitrade*

*consumption* effect (Appleyard and Field, 2001). The changes in either PPF or CIC are basically sources of the dynamics in countries' comparative advantage.

### 3. VARIOUS EMPIRICAL MEASURES OF COMPARATIVE ADVANTAGE

#### 3.1 Catching-up economies: dynamic comparative advantage

Many domestic and international factors determine a country's comparative advantage. Balance *et al.* (1987) argue that economic conditions in the various trading countries will determine the international pattern of comparative advantage and the pattern of international trade, production and consumption (TPC) among countries. In empirical studies, researchers apply data on TPC, such as exports, imports, production and consumption, to "reveal" countries' comparative advantage. However, the application of such data brings several problems about the data aggregation, the magnitude of TPC data, the concordance TPC data and the government trade interventions.



**Figure 4** *Flying Geese Paradigm: Import-Production-Export-Reverse Import*  
 Source: Kojima (2000).

One of the very famous theories related to TPC is the Flying Geese (FG) paradigm by Akamatsu (1961, 1962). Figure 4 represents the FG paradigm, which consists of the four following catching-up stages (Kojima, 2000):

- (1) *First stage*: manufactured consumer goods are imported from advanced countries (started from  $t_1$  in Panel a).
- (2) *Second stage*: the domestic production (import-substitution strategy) exists (started from time  $t_2$  in Panel a). At the same time, the country must also import capital goods (started from  $t_2$  in Panel b).
- (3) *Third stage*: the domestic production are also for exports (started from  $t_3$  in Panel a). At time  $t^*$ , trade in consumer goods is in the equilibrium or trade balance (Export=Import) and domestic production equals domestic demand (since domestic demand = domestic production – export + import). This stage implies a successful implementation of the catching-up process of the industry concerned along the sequential path import-production-export (M-P-E), which is the basic pattern of the FG model.
- (4) *Fourth stage*: the advanced status in consumer goods industry is further elevated. It is shown by the decrease of export in consumer goods (from  $t_4$  in Panel a), meanwhile capital goods export start (from  $t_5$  in Panel b). The industry is reallocated to the less-developed countries (Offshore production depicted by broken line in panel a), based on their comparative advantage<sup>7</sup>.

### 3.2 Quantitative measures to “reveal” countries’ comparative advantage

Nowadays, there are many empirical measures of comparative advantage. We will briefly discuss the available empirical measures that are framed in the catching-up process as previously shown in Figure 4. Let us denote  $M_{ij}$ ,  $X_{ij}$  and  $P_{ij}$  as values of imports, exports and production of the country  $i$  for the commodity  $j$ , respectively. Balance *et al.*, (1987) summarizes the available empirical measures (including ones by Balassa, 1965; Donges and Riedel, 1977; UNIDO, 1982; Bowen, 1983) as follows:

- (1) The ratio of exports ( $X_{ij}$ ) to production ( $P_{ij}$ ):  $X_{ij}/P_{ij}$ . This index varies from 0 to 1 and basically shows the portion of domestic production that is exported. A country might simultaneously produce and export commodities. In Figure 4, this situation is represented by the time beyond  $t_2$ . This index is suitable for analyzing the comparative advantage of commodities domestically produced. Non-exportable commodities will have index 0 (in the time  $t_2t_3$ ), while exportable commodities will have index greater than zero (beyond the time  $t_3$ ).
- (2) The ratio of imports ( $M_{ij}$ ) to consumption ( $C_{ij}$ ):  $M_{ij}/C_{ij}$ . This index represents the portion of imports in consumption. In Figure 4, for the period

$t_1t_2$  domestic consumption is mainly fulfilled from imports. For the period  $t_2t_4$ , consumption is supplied by both domestic production and imports. For the period beyond  $t_4t_5$ , consumption is supplied only by domestic production. When the reverse import occurs beyond time  $t_5$ , the situation in the period  $t_1t_2$  might again occur.

- (3) The ratio of net trade ( $T_{ij}=X_{ij}-M_{ij}$ ) to production:  $T_{ij}/P_{ij}$ . In Figure 4, in the time  $t_3t_4$  the country exports and imports simultaneously. Before the time  $t^*$  the index will be negative, while in the period beyond  $t^*$  the index will be positive.
- (4) The ratio of production to consumption:  $P_{ij}/C_{ij}$ . This index basically shows the portion of domestic production in the total consumption. In Figure 4, in the time  $t_1t_2$ , the index will be zero, in the time  $t_2t_3$  it will be between 0 and  $\frac{1}{2}$ , and in time beyond  $t_3$  it will be greater than  $\frac{1}{2}$ .
- (5) The ratio of actual net trade to “expected”<sup>8</sup> production ( $E[P_{ij}]$ ):  $T_{ij}/E[P_{ij}]$ .
- (6) The ratio of the deviation of actual from expected production (DP) to expected production:  $DP/EP=(P_{ij}-E[P_{ij}])/E[P_{ij}]$ .
- (7) The ratio of deviation of actual from expected consumption (DC) to expected production:  $DC/EP=(C_{ij}-E[C_{ij}])/E[P_{ij}]$ .
- (8) The ratio of the net trade from the total trade  $T_{ij}/XM_{ik}=(X_{ij}-M_{ij})/(X_{ik}+M_{ik})$ .
- (9) The ratio of actual exports to expected exports<sup>9</sup>,  $BAL_{ik}=X_{ik}/E(X_{ik})$
- (10) The Donges and Riedel index,  $D-R_{ij}=(T_{ij}/XM_{ij}/T_{im}/XM_{im})-1*(\text{sign } T_{ij})$ , where  $m$  indicates the summation across all manufactured products.

The applicability of the measures depends upon the available data required. Balance *et al.* (1987) note that the measures (1)-(7) are difficult to apply since the data of trade and production is generally collected by employing the different classifications. For example, trade data is classified using the Standard International Trade Classification (SITC) while industrial production data is classified using the International Standard Industrial Classification (ISIC) (in the case of Indonesia, *Kode Lapangan Usaha Indonesia*, KLUI). Therefore, concordance is difficult. The concordance might be made but in aggregated product definition<sup>10</sup>. In contrast, the measures (8)-(10), especially (8) and (9), are commonly applied in the empirical studies, since consistent data on imports and exports are available, even for rather detailed product definition<sup>11</sup>.

## 4. “PRODUCTS MAPPING” FOR ANALYZING COMPARATIVE ADVANTAGE OF THE CATCHING-UP ECONOMIES

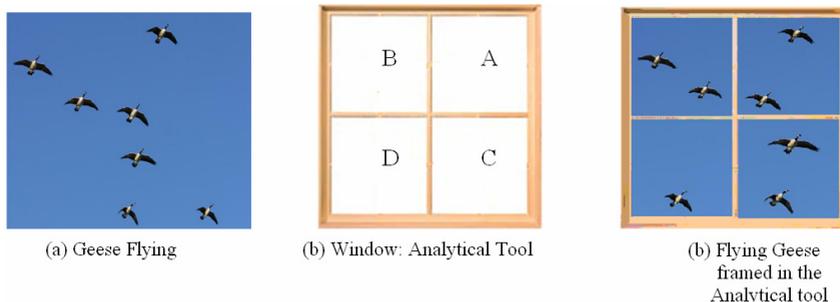
### 4.1 Leading exports: two points of view

We would argue that the meaning of “leading exported products” could be examined from two different points of view, i.e. domestic trade-balance and international competitiveness. *First*, from the domestic point of view, leading exported products are meant as exported products that can give bigger amount of foreign exchange for domestic economy. From the standard macroeconomic identity  $Y=C+I+G+(X-M)$ , where  $Y$ ,  $C$ ,  $I$ ,  $G$ ,  $X$  and  $M$  are output, consumption, investment, government expenditure, exports and imports, respectively, it is clearly shown that trade-balance ( $X-M$ ) is one of sources of output growth ( $Y$ ). From this point of view, the higher the share of a specific product in the total domestic exports, the more significant the contribution of the exported product to the domestic economy becomes. Such product can be considered as foreign exchange creators for domestic economy.

*Second*, from international competition point of view, leading exported products are products that have high comparative advantage in the international market. A specific exported product becomes leading export if its share in the total world export is dominant. It might be possible that a specific product is not significant as foreign exchange creator but it can compete internationally.

### 4.2 Two indicators of comparative advantage: “Products Mapping”

In this sub-section, we present our analytical tool, namely “products mapping”, which consider the both points of view previously mentioned. As also clearly mentioned in the flying geese concept, we would argue that there are two crucial variables for analyzing the catching-up economies’ comparative advantage, i.e. domestic trade-balance and international competitiveness.



**Figure 5** Geese Flying and “Product Mapping”

Source: [http://www.pbase.com/cogard/flying\\_ducks\\_geese\\_shorebirds](http://www.pbase.com/cogard/flying_ducks_geese_shorebirds) for the geese flying

Therefore, the analytical tool should be constructed by combining the two variables. As for illustration, imagine we are sitting in a room. Outside, there are geese flying (panel (a) in Figure 5), corresponding with the exported products in our analysis. The room has a window (panel b of Figure 5), corresponding with the analytical tool. Through the window, we see geese flying (panel c).

RSCA > 0	<b>Group B:</b> Comparative Advantage Net-importer (RSCA > 0 and TBI < 0)	<b>Group A:</b> Comparative Advantage Net-exporter (RSCA > 0 and TBI > 0)
RSCA < 0	<b>Group D:</b> Comparative disadvantage Net-importer (RSCA < 0 and TBI < 0)	<b>Group C:</b> Comparative disadvantage Net-exporter (RSCA < 0 and TBI > 0)
	TBI < 0	TBI > 0
	Trade Balance Index (TBI)	

**Figure 6** *Products Mapping*

Two indicators are required to represent the both two point of views, domestic trade-balance and international competitiveness as previously mentioned. We choose Revealed Symmetric Comparative Advantage (RSCA) by Dalum *et al.* (1998) and Laursen (1998) as the indicator of comparative advantage and Trade Balance Index (TBI) by Lafay (1992) as the indicator of export-import activities. The RSCA index is a simple decreasing monotonic transformation of Revealed Comparative Advantage (RCA) or Balassa index (Balassa, 1965). RCA index is formulated as follows:

$$RCA_{ij} = (x_{ij} / x_{in}) / (x_{rj} / x_{rn}) \quad (1)$$

where  $RCA_{ij}$  represents revealed comparative advantage of country  $i$  for group of products (SITC)  $j$ ; and  $x_{ij}$  denotes total exports of country  $i$  in group of products (SITC)  $j$ . Subscript  $r$  refers to all countries without country  $i$ , and subscript  $n$  refers to all groups of products (SITC) except group of product  $j$ . The values of the index vary from 0 to infinity ( $0 \leq RCA_{ij} \leq \infty$ ).  $RCA_{ij}$  greater than one means that country  $i$  has comparative advantage in group of products  $j$ . In contrast,  $RCA_{ij}$  less than one implies that country  $i$  has comparative disadvantage in group of products  $j$ .

Since  $RCA_{ij}$  turns out to produce values that cannot be compared on both sides of one, Dalum *et al.* (1998) and Laursen (1998) have made Revealed Symmetric Comparative Advantage (RSCA) index, which is formulated as follows:

$$RSCA_{ij} = (RCA_{ij} - 1) / (RCA_{ij} + 1) \quad (2)$$

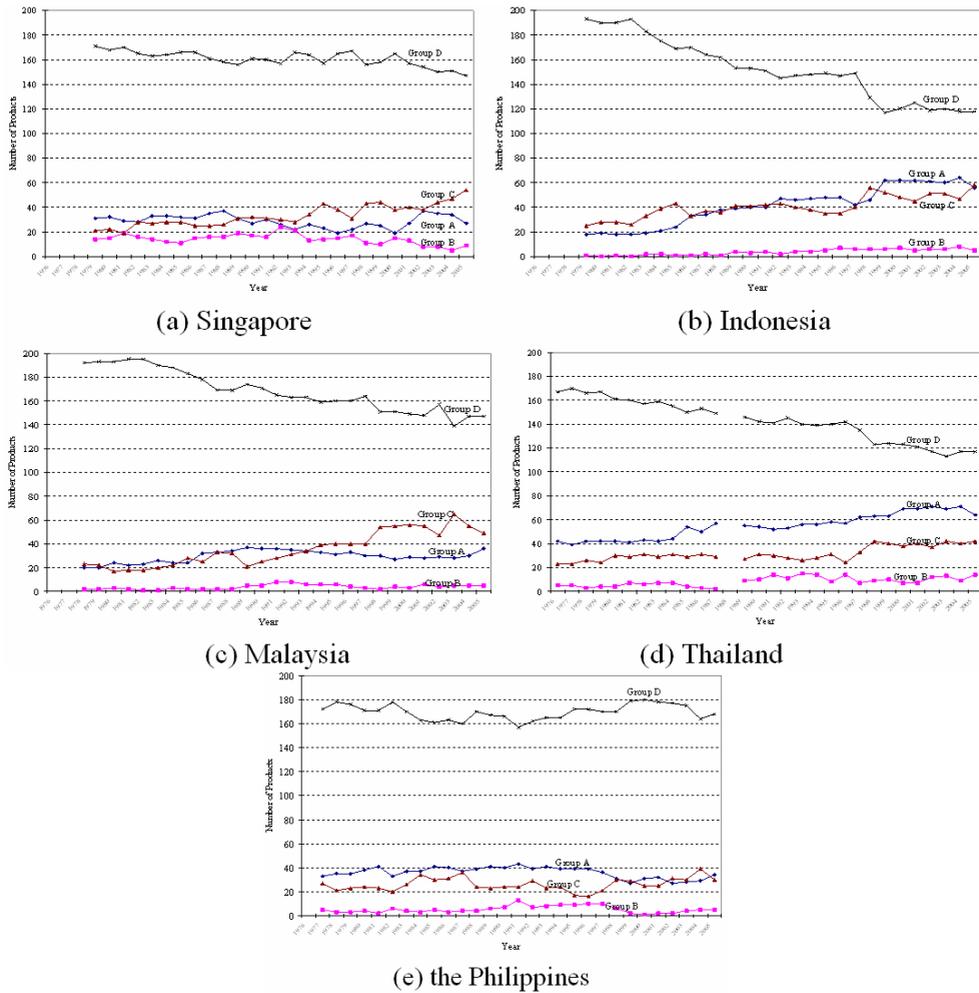
The values of  $RSCA_{ij}$  index can vary from minus one to one (or  $-1 \leq RSCA_{ij} \leq 1$ ).  $RSCA_{ij}$  greater than zero implies that country  $i$  has comparative advantage in group of products  $j$ . In contrast,  $RSCA_{ij}$  less than zero implies that country  $i$  has comparative disadvantage in group of products  $j$ .

Trade Balance Index (TBI) (Lafay, 1992) is employed to analyze whether a country has specialization in export (as net-exporter) or in import (as net-importer) for a specific group of products (SITC)<sup>12</sup>. TBI is simply formulated as follows:

$$TBI_{ij} = (x_{ij} - m_{ij}) / (x_{ij} + m_{ij}) \quad (3)$$

where  $TBI_{ij}$  denotes trade balance index of country  $i$  for group of products (SITC)  $j$ ;  $x_{ij}$  and  $m_{ij}$  represent exports and imports of group of products  $j$  by country  $i$ , respectively. Values of the index range from -1 to +1. Extremely, the TBI equals -1 if a country only imports, in contrast, the TBI equals +1 if a country only exports. Indeed, the index is not defined when a country neither exports nor imports. In this case, we put zero since the group of products shows either potentially to be exported or imported. Any value within -1 and +1 implies that the country exports and imports a commodity simultaneously. A country is referred to as “net-importer” in a specific group of product where the value of TBI is negative, and as “net-exporter” where the value of TBI is positive.

By using the RSCA and TBI indexes, the “products mapping” is constructed<sup>13</sup>. Products (SITC) can be categorized into four groups A, B, C and D as depicted in Figure 5. Group A consists of products, which have both comparative advantage and export-specialization; Group B consists of products, which have comparative advantage but no export-specialization; Group C consists of products, which have export-specialization but no comparative advantage; and Group D consists of products, which have neither comparative advantage nor export-specialization.



**Figure 7** Trends in the Number of Products in Each Group A, B, C and D  
 Source: UN-COMTRADE, author's calculation.

## 5. THE EMPIRICAL RESULTS

### 5.1 Data

We use data on exports and imports published by the United Nations (UN) namely the United Nations Commodity Trade Statistics Database (UN-COMTRADE). Internationally traded products are classified according to some international standards of classification such as the Standard International Trade Classification (SITC), the Harmonized Commodity Description and Coding

System (HS) and the Broad Economic Categories (BEC). This research uses the 3-digit SITC Revision 2 and focuses on 237 groups of products. There are still two groups (SITC) that are not covered in this paper i.e. hoop and strip of iron or steel, hot-rolled or cold-rolled (SITC 675) and postal packages not classified according to kind (SITC 911)<sup>14</sup>.

### 5.2 Products mapping: the ASEAN countries' exports

Table 6 shows the average number of products (defined as the 3-digit SITC) in the Groups A, B, C and D of the “products mapping” for the ASEAN countries for 1976-2005. Around 66.8 percent of the number of ASEAN's exported products is in the Group E (products have no comparative advantage, and country is as a net importer). And there are about 16 percent, 14 percent and 3 percent of the number of products in the Groups A, D and C, respectively. Group B is a rather strange group, because it consists of products, which have comparative advantage but the country as a net-importer. Compared with the other countries, Singapore had the highest portion of products lying in this group i.e. 14 products (6%). This is understandable since Singapore is as an *entrepot* centers for the other countries, especially the ASEAN countries. Singapore has very high competitive advantages in service sector, such as shipping, banking, etc.; such that she can do re-export activities efficiently. As a result, those re-exported products still have comparative advantage in the international market. The dominance of Groups D and A (together around 82.8 percent of the number of products) indicates a strong relationship between comparative advantage and the position of a country in the international market, as a net-importer or a net-exporter.

**Table 6** *The Average Number of Products in each Group A, B, C and D for 1976-2005*

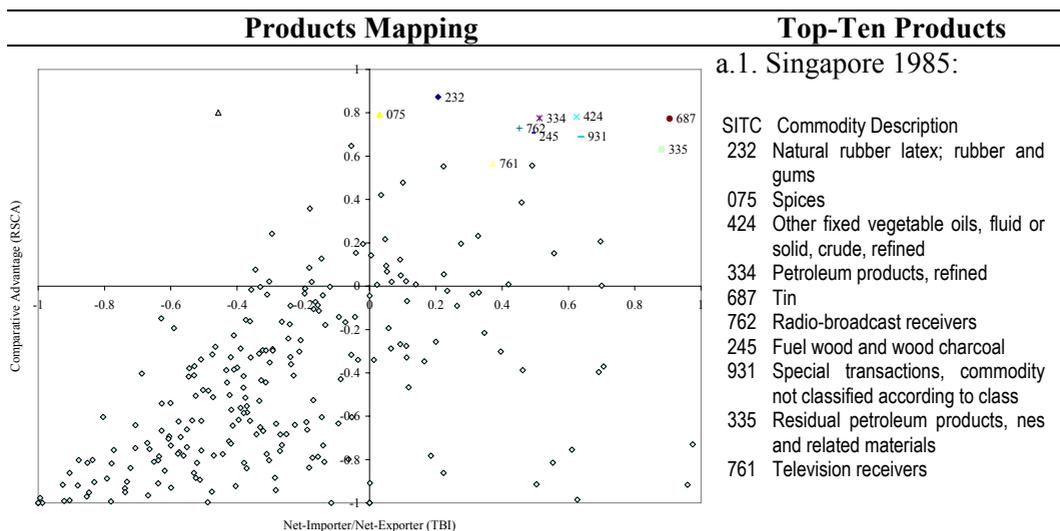
Group C			Group A		
Singapore	14	(6.0%)	Singapore	29	(12.2%)
Indonesia	4	(1.5%)	Indonesia	41	(17.4%)
Malaysia	4	(1.6%)	Malaysia	30	(12.6%)
Thailand	8	(3.5%)	Thailand	54	(22.8%)
the Philippines	5	(2.3%)	the Philippines	36	(15.2%)
All	7	(3.0%)	All	38	(16.0%)

Group E			Group D		
Singapore	161	(67.9%)	Singapore	33	(14.0%)
Indonesia	152	(64.0%)	Indonesia	40	(17.0%)
Malaysia	167	(70.7%)	Malaysia	36	(15.1%)
Thailand	143	(60.5%)	Thailand	31	(13.2%)
the Philippines	169	(71.4%)	the Philippines	26	(11.1%)
All	158	(66.8%)	All	33	(14.0%)

Source: UN-COMTRADE, *author's calculation*

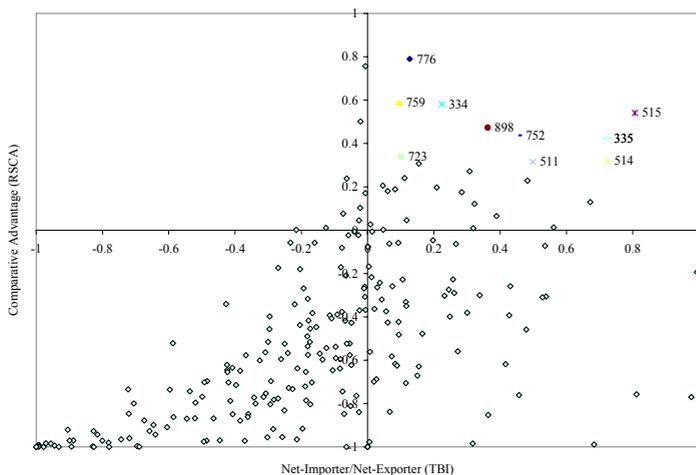
Figure 6 shows trends in the number of products in each group. Indonesia, Malaysia and Thailand have relatively similar trends in the number of products in each group i.e. decreasing the number of products in Group D and increasing the number of products in Groups A and C. The Philippines shows relatively steady trends in the number of products in each group. Singapore has negative trends in the numbers of products in Group B and D, but she has positive trends in the numbers of products in group A and C since the mid-1990s. However, the number of products in group A decreased for the last four years.

**Table 7. "Products Mapping": Top-Ten Products in 1985 and 2005**



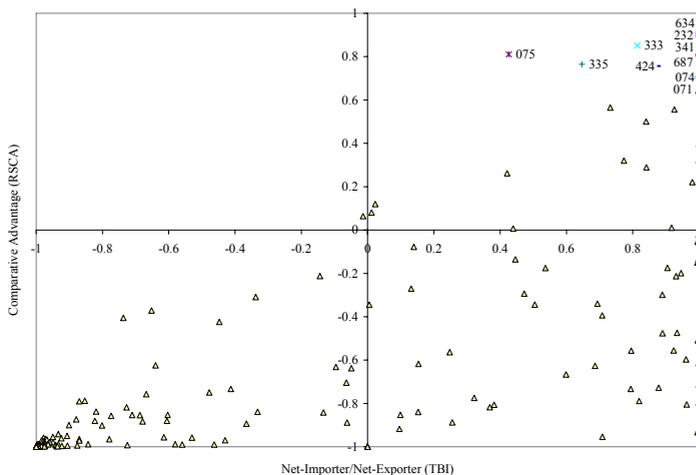
### Products Mapping

### Top-Ten Products



#### a.2. Singapore 2005:

- | SITC | Commodity Description  |
|------|--|
| 776  | Thermionic, microcircuits, transistors, valves, etc                |
| 687  | Tin  |
| 759  | Parts, nes of and accessories for machines of headings 751 or 752  |
| 334  | Petroleum products, refined  |
| 515  | Organo-inorganic and heterocyclic compounds                        |
| 277  | Natural abrasives, nes   |
| 898  | Musical instruments, parts and accessories thereof                 |
| 752  | Automatic data processing machines and units thereof               |
| 335  | Residual petroleum products, nes and related materials             |
| 723  | Civil engineering, contractors' plant and equipment and parts, nes |
| 514  | Nitrogen-function compounds  |
| 511  | Hydrocarbons, nes, and derivatives                                 |

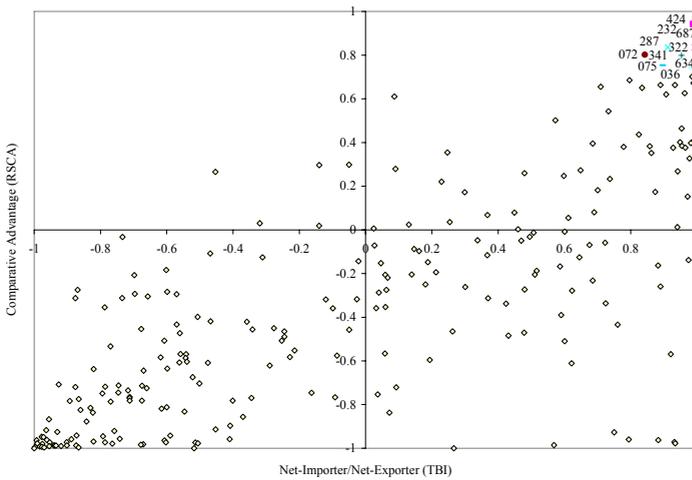


#### b.1. Indonesia 1985:

- | SITC | Commodity Description                                       |
|------|---|
| 634  | Veneers, plywood, improved" wood and other wood worked nes" |
| 232  | Natural rubber latex; rubber and gums                       |
| 341  | Gas, natural and manufactured                               |
| 333  | Crude petroleum and oils obtained from bituminous minerals  |
| 075  | Spices  |
| 687  | Tin   |
| 335  | Residual petroleum products, nes and related materials      |
| 424  | Other fixed vegetable oils, fluid or solid, crude, refined  |
| 074  | Tea and mate  |
| 071  | Coffee and coffee substitutes                               |

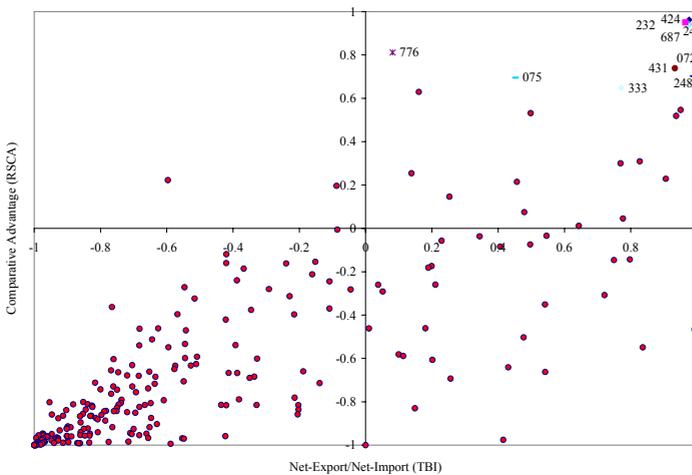
**Products Mapping**

**Top-Ten Products**



**b.2. Indonesia 2005:**

- SITC Commodity Description
- 424 Other fixed vegetable oils, fluid or solid, crude, refined
  - 687 Tin
  - 232 Natural rubber latex; rubber and gums
  - 287 Ores and concentrates of base metals, nes
  - 322 Coal, lignite and peat
  - 072 Cocoa
  - 634 Veneers, plywood, improved" wood and other wood worked nes"
  - 341 Gas, natural and manufactured
  - 075 Spices
  - 036 Crustaceans and molluscs, fresh, chilled, frozen, salted, etc



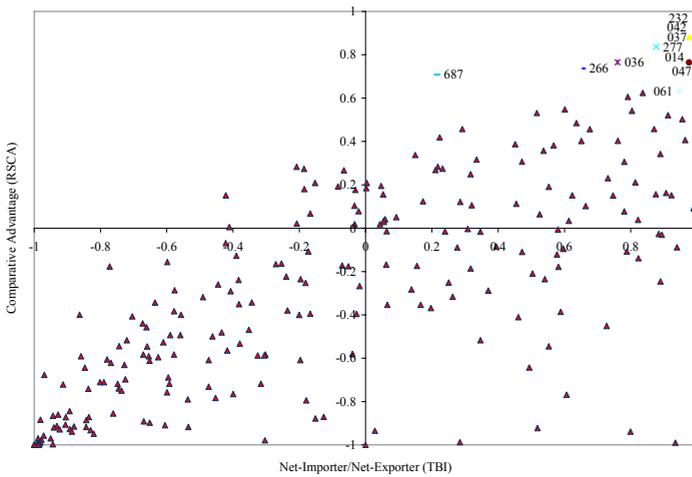
**c.1. Malaysia 1985:**

- SITC Commodity Description
- 424 Other fixed vegetable oils, fluid or solid, crude, refined
  - 232 Natural rubber latex; rubber and gums
  - 247 Other wood in the rough or roughly squared
  - 687 Tin
  - 776 Thermionic, microcircuits, transistors, valves, etc
  - 431 Animal and vegetable oils and fats, processed, and waxes
  - 072 Cocoa
  - 248 Wood, simply worked, and railway sleepers of wood
  - 075 Spices
  - 333 Crude petroleum and oils obtained from bituminous minerals



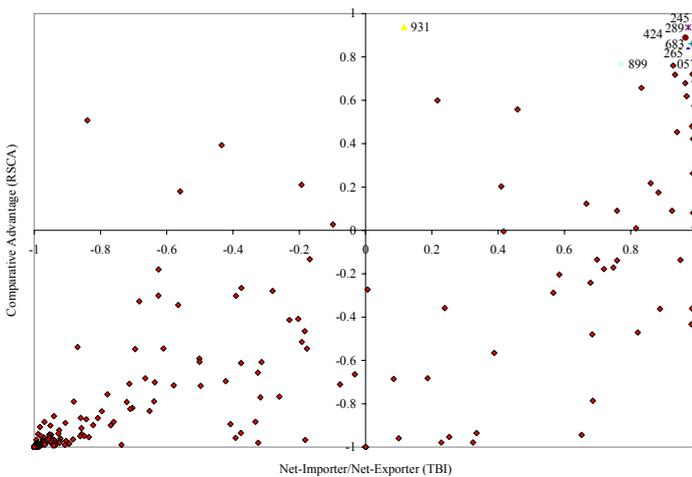
**Products Mapping**

**Top-Ten Products**



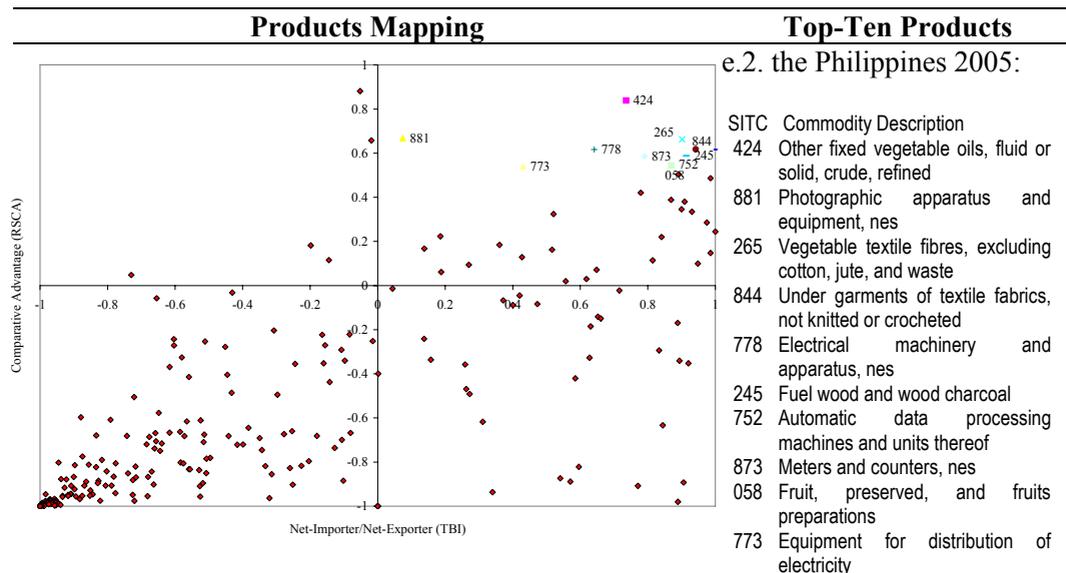
**d.2. Thailand 2005:**

- | SITC | Commodity Description   |
|------|---|
| 232  | Natural rubber latex; rubber and gums                               |
| 042  | Rice  |
| 037  | Fish, crustaceans and molluscs, prepared or preserved, nes          |
| 277  | Natural abrasives, nes  |
| 036  | Crustaceans and molluscs, fresh, chilled, frozen, salted, etc       |
| 047  | Other cereal meals and flour  |
| 014  | Meat and edible meat offal, prepared, preserved, nes; fish extracts |
| 266  | Synthetic fibres suitable for spinning                              |
| 687  | Tin   |
| 061  | Sugar and honey   |



**e.1. the Philippines 1985:**

- | SITC | Commodity Description   |
|------|---|
| 245  | Fuel wood and wood charcoal                                       |
| 289  | Ores and concentrates of precious metals, waste, scrap            |
| 931  | Special transactions, commodity not classified according to class |
| 265  | Vegetable textile fibres, excluding cotton, jute, and waste       |
| 424  | Other fixed vegetable oils, fluid or solid, crude, refined        |
| 061  | Sugar and honey   |
| 683  | Nickel  |
| 058  | Fruit, preserved, and fruits preparations                         |
| 057  | Fruit and nuts, fresh, dried                                      |
| 899  | Other miscellaneous manufactured articles, nes                    |



Source: UN-COMTRADE, *author's calculation*

Table 7 presents the products mapping for 1985 and 2005. The second column represents top-ten listed products in Group A. These products are considered as the best-ten products in term of their comparative advantage and trade balance. They are in the position of having comparative advantage in the international trade and the country in the position of having positive trade balance (or as net-exporter). All figures show positive relationship between comparative advantage and trade balance. The higher the comparative advantage of a specific product, the higher the possibility of a country as a net-exporter becomes. This result strongly supports the theory of comparative advantage (Ricardo, 1817): “a nation, like person, gains from trade by exporting the goods or services in which it has its greatest comparative advantage in productivity and importing those in which it has the least comparative advantage”.

## 6. CONCLUSIONS

This paper discusses the theory, empirical measures and case studies of comparative advantage. For the developing or catching-up economies, like the ASEAN countries, the meaning of “leading exported products” can be seen from two different points of view i.e. domestic interest (exports as foreign exchange

creator) and international competition. We make an analytical tool namely the “products mapping”, which is suitable for analyzing the catching-up countries’ comparative advantage. The analytical tool is, then, applied to examine the ASEAN countries’ exports. We conclude that there is a positive relationship between comparative advantage and trade balance. The higher the comparative advantage of a specific product, the higher the possibility of a country as a net-exporter becomes. This strongly supports the theory of comparative advantage.

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<sup>1</sup> Adam Smith (1776), in his work *Wealth of Nations*, states that all "value" is determined by, and measured in, hours of labor. With competitive market, the market value or price of a product is then determined by labor cost. This is the essence of the labor theory of value, which is imitated by David Ricardo (1817) as well as Karl Marx (1958). A critic of Marx (1958), which is then known as "great contradiction", is that if the exchange value of commodities is determined by the labor time they contain, how can this be reconciled with the empirically observed facts that the market prices of the commodities frequently differ from their labor values? Please see also: Cropsey (1963:713) and Ekelund and Hébert (1997:239).

<sup>2</sup> It is defined as all possible combinations of outputs of different goods that economy can produce with full employment of resources and maximum productivity.

<sup>3</sup> It is actually the concept of opportunity cost, which shows the amount of the other good (Y) has to give up for getting more of the specific good (X).

<sup>4</sup> The function  $f$  is concave if  $f(\bar{x}) \geq \alpha f(x') + (1-\alpha)f(x'')$  where  $\bar{x} = \alpha x' + (1-\alpha)x''$  and  $\alpha \in [0,1]$ . It is strictly concave if the strict inequality holds when  $\alpha \in [0,1]$  (Hoy *et al.*, 1996).

<sup>5</sup> Community utility function shows the aggregate individuals' utilities into social utilities. There are some examples such as purely Utilitarian type,  $CIC = u_L + u_K$ ; non-symmetric Utilitarian type,  $CIC = \beta_1 u_L + \beta_2 u_K$ ; Maximin or Rawlsian type,  $CIC = \text{Min}\{u_L, u_K\}$ ; Generalized utilitarian type;  $CIC = f_1(u_L) + f_2(u_K)$ , where  $f_1$  and  $f_2$  are concave functions; Constant elasticity type,  $CIC = (u_L^{1-\rho} + u_K^{1-\rho})^{\frac{1}{1-\rho}}$  for  $\rho \neq 1$  and  $CIC = \ln(u_L) + \ln(u_K)$  for  $\rho = 1$ . See Mas-Colell *et al.* (1995) for detailed explanation.

<sup>6</sup> This price ratio also represents individual country's comparative advantage. The assumption of perfect competition markets implies that price equals marginal cost (MC). Therefore, the expression  $(p_x/p_y)_A > (p_x/p_y)_B$  can also be presented as:

$$(MC_x / MC_y)_A > (MC_x / MC_y)_B \text{ or}$$

$$\left( \frac{wL * MP_L^x + wK * MP_K^x}{wL * MP_L^y + wK * MP_K^y} \right)_A > \left( \frac{wL * MP_L^x + wK * MP_K^x}{wL * MP_L^y + wK * MP_K^y} \right)_B$$

. Where  $wL$  and  $wK$  are prices of Labor and Capital, respectively;  $MP_L$  and  $MP_K$  are marginal products for Labor and Capital, respectively. Country A has comparative advantage in product y and country B has comparative advantage in product x.

<sup>7</sup> It is sometimes argued that the structural transformation of industrialization in East Asia follows this 'flying geese' formation. Garment, Steel, Popular TV, Video and HDTV are frequently used to illustrate the formation. Those products have been transferred from Japan to Newly Industrialized Economies (NIEs: Hog Kong, Taiwan, Singapore and

Korea); from the NIEs to the ASEAN4 (Malaysia, Indonesia, Thailand and the Philippines); from the ASEAN4 to latecomer economies.

<sup>8</sup> The term “expected” means hypothetical values of trade, production and consumption that would exist as reflection of a world’s hypothetical “comparative advantage neutral” (Bowen, 1983). In such a world, countries do not have comparative advantage since the relative prices would be the same. Therefore, the differences between actual and expected values can be reflected as:  $T_{ij} - E[T_{ij}] = (P_{ij} - E[P_{ij}]) - (C_{ij} - E[C_{ij}])$ , where  $i$  denotes the country;  $k$  denotes the commodity; and  $E[T_{ij}]$ ,  $E[P_{ij}]$  and  $E[C_{ij}]$  indicates the expected level of trade, production and consumption, respectively. It is assumed that there are identical preferences such that each country will produce at level depending upon its economic size, for example, Gross Domestic Product (GDP), which is denoted as  $Y$ . Therefore, the expected production and expected consumption can be expressed as:  $E[P_{ij}] = E[C_{ij}] = P_{wj} * (Y_i / Y_w)$  where  $P_{wj}$  is world production (which is equal to consumption) of commodity  $k$ ;  $Y_i$  and  $Y_w$  is the country’s GDP and the world’s GDP, respectively.

<sup>9</sup> Revealed Comparative Advantage (RCA) index by Balassa (1965) is also in this category.

<sup>10</sup> See, for example, the website of the United Nations – Statistic Division.

<sup>11</sup> For example, the UN-COMTRADE provides us with the detailed data on trade (export, import, re-export and re-import) by countries of reporter, by countries of partner, by years, and by the various commodity classification systems i.e. the Standard International Trade Classification (SITC) Revision 1 (1961), SITC Revision 2 (1975), SITC Revision 3 (1986), the Harmonized Commodity Description and Coding System (HS) 1992, HS 1996, HS 2002 and the Broad Economic Categories (BEC). The HS was adopted in 1983 and entered into force on 1 January 1988. The BEC is designed to serve as a means for converting external trade data compiled by using the SITC into end-use categories that are meaningful within the System National Accounts (SNA) framework. Under the SITC, products are classified according to (a) the materials used in production, (b) the processing stage, (c) market practice and uses of the products, (d) the importance of the commodities in terms of the world trade, and (e) technological changes. For the SITC, the structure of classification is: level 1 (one-digit code) for Sections, level 2 (2-digit codes) for Divisions, level 3 (3-digit codes) for Groups, level 4 (4-digit codes) for Subgroups and level 5 (5-digit codes) for Items.

<sup>12</sup> As far as the FG is concerned, the TBI is suitable indicator instead of inter-industry and intra-industry trade index by Grubel and Lloyd (1975:21):

$$\text{Inter-industry trade: } A_{ij} = \left[ \frac{|x_{ij} - m_{ij}|}{(x_{ij} + m_{ij})} \right] * 100$$

$$\text{Intra-industry trade: } A_i = \left[ \frac{(x_{ji} + m_{ij}) - |x_{ij} - m_{ij}|}{(x_{ij} + m_{ij})} \right] * 100$$

The TBI can indicate clearly whether a country as a net-exporter or net-importer.

<sup>13</sup> In this research, flying geese are products (SITC), therefore the analytical tool is called “products mapping”. The geese might be industries or countries, therefore the analytical tool could be named “industries mapping” or “countries mapping”, respectively.

<sup>14</sup> The two SITC have been not reported since 2001 in the world market. Technically, the Revealed Symmetric Comparative Advantage index, which is extensively employed in

this research, is not defined when there is no trade in the world market. For 1976-2000, the average share of export of the two SITC in the world export was only 0.13 percent.



# ANALYSIS OF THE RELEVANCE OF NON-TRADITIONAL ACTIVITIES ITEMS UPON THE EFFICIENCY OF CHINESE BANKS: A NON-STOCHASTIC FRONTIER DEA APPROACH

Fadzlan SUFIAN\*

***Abstract:** Studies on the performance of the China banking sector have concentrated on analyzing the impact of ownership since reforms. However, little is known about the impact of change in behavior of the State Owned and Joint Stock Commercial Banks towards non-traditional activities on their performance. The present study employs the non-parametric Data Envelopment Analysis (DEA) method to examine the impact of non-traditional activities on the technical, pure technical, and scale efficiency of the China banking sector during the period 2000-2005. Additionally, a battery of parametric and non-parametric univariate tests are employed to examine the difference in the efficiency levels of the China banking sector under the traditional and alternative DEA models. The empirical findings suggest that the State Owned Commercial Banks' technical efficiency enhances with the inclusion of non-traditional activities attributed to improvement in scale efficiency, while the Joint Stock Commercial Banks' technical efficiency is higher attributed to improvement in pure technical efficiency.*

***Keywords:** Bank Efficiency, Non-Traditional Activities, Data Envelopment Analysis (DEA), China*

***JEL Codes:** G21; G28*

## 1. INTRODUCTION

The reform of the China banking sector over the last two decades is the core of China's strategy to improve the intermediation of its large private sector savings.

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The aim of the banking sector reform is to increase the efficiency of the financial system while preserving the stability of the financial and economic sectors. Despite undergoing massive reforms, the China banking sector still face a number of challenges, such as insufficient capital, government interference, poor risk management practices, and large chunks of non-performing loans (NPLs).

To date, studies on bank efficiency within the context of the China banking sector have concentrated on analyzing the impact of ownership on bank efficiency and performance since reforms (e.g. Chen et al. 2005; Fu and Heffernan, 2007; Ariff and Can, 2007; Berger et al. 2007). However, the impact of diversification strategy on bank efficiency has not been the main focus of their research. Furthermore, these studies have ignored the effects of non-traditional activities on the evolution of the efficiency of China banks.

It has been documented by among others Rogers (1998), Stiroh (2000), Isik and Hassan (2003), and Sufian (2008) that the failure to incorporate non-traditional activities would lead to the efficiency scores obtained to be seriously understated. Isik and Hassan (2003) pointed out that by ignoring the non-traditional activities, as in most of the previous bank efficiency and productivity models, does not reflect the changes in the marketplace as banks have continuously embrace non-traditional activities business. Thus, the omission of such items may affect the derived efficiency and productivity estimates statistically and economically to a great extent by seriously understating the actual output (Siems and Clark, 1997).

This present study attempts to fill a demanding gap in the literature by providing for the first time empirical evidence on the impact of non-traditional activities on China banks' technical and scale efficiency estimates. The non-stochastic frontier Data Envelopment Analysis (DEA) method is employed to examine the importance of non-traditional activities in explaining the evolution of China banks' efficiency. Since its introduction by Charnes et al. (1978), researchers have welcomed DEA as the preferred method for performance evaluation (Gregoriou and Zhou, 2005). DEA has many advantages over traditional parametric techniques such as regression techniques. While regression analysis approximates the efficiency of banks under investigation relative to the average performance, DEA in contrast, focuses on the yearly observations of individual banks and optimizes the performance measure of each bank. Constructing a separate frontier for each of the years under study is a critical issue in a dynamic business environment because a bank may be the most efficient in one year but

may not be in the following year. In the context of the China banking sector, it becomes even more important, as there is an ongoing economic reform of the banking sector over the estimation period.

The results from this study are of interest as this is the first time that the issue of the impact of non-traditional activities on China banks' technical, pure technical, and scale efficiency estimates has been considered. In recent years, income derived from non-traditional activities business has been a growing area of banking operations in China and worldwide (Allen and Santomero, 2001). Thus, the results will contribute not only to the body of knowledge considering the changing nature of bank intermediation activities, but also will consider the impact of this change upon the evolution of China banks' technical, pure technical and scale efficiency estimates.

This paper is structured as follows. The following section reviews related studies in the main literature with respect to studies on bank efficiency. Section 3, describes the data, sources, and model specification, which is employed in this study. Section 4 discusses the results, and finally section 5 provides some concluding remarks.

## **2. REVIEW OF THE LITERATURE**

Banking literatures that examine the impact of non-traditional activities on bank performance are voluminous. However, the majority of the earlier studies have focused on the U.S. banking sector (e.g. Jagtiani et al. 1995; Jagtiani and Khantavit, 1996; Siems and Clark, 1997; Rogers, 1998; DeYoung and Roland, 2001; DeYoung and Rice, 2003; Stiroh and Rumble, 2006). Only very recently empirical studies have been undertaken to examine several other countries such as Turkey (Isik and Hassan, 2003), Spain (Tortosa-Ausina 2003), Europe (Casu and Girardone, 2005), Malaysia (Sufian and Ibrahim, 2005), Taiwan (Lieu et al. 2005). Despite that, this important issue on the Chinese banking sector is completely missing from the literature.

Siems and Clark (1997) estimated bank profit efficiency measures that includes non-traditional activities and found that failing to account for non-traditional activities has important statistical and economic effects on the derived efficiency measures by seriously understating banks' output. Rogers (1998) estimated the cost, revenue, and profit efficiencies of U.S. banks by using the model with and without non-traditional activities. He used non-interest income as a

proxy of non-traditional activities and employed the Distribution Free Approach (DFA) estimation method. He found that the standard model that omit the non-traditional activities tend to understate bank efficiency levels. Similarly, in his study on the efficiency of the U.S. bank holding companies during the period 1991 to 1997, Stiroh (2000) found that the efficiency estimates of bank holding companies are particularly sensitive to output specification and failure to account for non-traditional activities leads to profit efficiency estimates to be understated.

Recognizing the importance of non-traditional activities in explaining bank efficiency, Isik and Hassan (2003) incorporated non-traditional activities as an output in their estimation model. They examined the efficiency of the Turkish banking sector during the period of 1980 to 1990. They found that the efficiency estimates of the private and foreign owned banks tend to be underestimated with the exclusion of non-traditional activities. They demonstrated that with the inclusion of non-traditional activities, the technical efficiency and pure technical efficiency of the private owned banks in Turkey improved from 61.9% and 78.9% to 65.4% and 84.9% respectively. For the foreign owned banks, the technical efficiency and pure technical efficiency increased to 86.1% and 90.9%, an improvement of 2.9% and 2.7% respectively. The State Owned Commercial Banks have benefited the least, exhibiting a marginal increase from 70.9% and 90.3% to 71.0% and 91.0% respectively. They suggest that the non-traditional activities has greater impact on the private and foreign owned banks, as the groups have engaged more in these activities. Hence, the exclusion of the non-traditional activities may distort the results, particularly for banks that are actively involved in the non-traditional activities.

DeYoung and Rice (2003) analyzed which bank characteristics, market conditions, and technological developments have been most closely associated with the increases in various types of non-interest income at U.S. commercial banks during the period 1989 to 2001. They also investigate whether the increases in various types of non-interest income have been associated with improved or worsening bank financial performance during the period. They arrived at five conclusions. First, they conclude that the large banks have been generating relatively more non-interest income. Secondly, they found that the well managed banks have been relying less on non-interest income. They also supported to the view that relationship banking tend to generate non-interest income. They documented that marginal increases in non-interest income have been associated

with higher profits, more variable profits, and on net, a worsening of the risk return tradeoff for the average commercial bank during the sample period.

Sufian and Ibrahim (2005) applied the Malmquist Productivity Index method to investigate the extent of non-traditional activities in explaining Malaysian banks' total factor productivity changes. They found that the inclusion of non-traditional activities resulted in an increase in the estimated productivity levels of all banks in the sample during the period of study. They also suggested that the impact were more pronounced on Malaysian banks' technological change rather than efficiency change.

Casu and Girardone (2005) investigated the relevance of non-traditional activities in explaining banks' total productivity change. Using a balance sample of over 2000 European banks between 1994 and 2000, they found that the inclusion of non-traditional activities in the definition of banks' output has the greatest impact on technological change rather than efficiency change. They conclude that by omitting the non-traditional activities may understate banks' productivity levels and consequently would result in bias conclusions.

By employing the Stochastic Cost Frontier method, Lieu et al. (2005) investigate the influence of non-traditional activities on the cost efficiency of Taiwan banks. They estimate and compare the cost inefficiency of 46 Taiwan banks during the period of 1998 to 2001 by adopting two different models (i.e. with and without non-traditional activities outputs). They found that by omitting the non-traditional activities outputs in estimating the cost frontier function of banks results in an underestimation of bank efficiency by approximately 5%. They suggest that the large banks are associated with higher cost efficiency and have an increased ability to develop non-traditional activities. They also found that banks with higher employee productivity tend to be relatively more cost efficient. Finally, they suggest that during the period under study economies of scale was observed for both models, while economies of scope are also observed.

Despite substantial studies performed in regard to the efficiency and productivity of financial institutions in the U.S., Europe and other Asia-Pacific banking industries, empirical evidence on the China banking industry is relatively scarce. Among the notable microeconomic research performed on China bank efficiency were by Chen et al. (2005), Fu and Heffernan (2007), and Ariff and Can (2007).

Chen et al (2005) examines the cost, technical and allocative efficiency of 43 Chinese banks over the period 1993 to 2000. They find that the large State Owned Commercial Banks and smaller banks are more efficient than medium sized Chinese banks. In addition, technical efficiency consistently dominates the allocative efficiency of Chinese banks. The financial deregulation of 1995 was found to improve cost efficiency levels including both technical and allocative efficiency.

Fu and Heffernan (2007) employed the Stochastic Frontier Approach (SFA) to investigate China's banking sector cost X-efficiency over the period 1985 to 2002. A two-stage regression model is estimated to identify the significant variables influencing X-efficiency. Overall, they suggest that banks are operating 40–60% below the X-efficiency frontier. On average, the Joint Stock Commercial Banks are found to be more X-efficient than the State Owned Commercial Banks. They suggest that X-efficiency was higher during the first phase of bank reform. They conclude that the recent policies, which was aimed at increased privatization, greater foreign bank participation, and liberalized interest rates should help to improve the cost X-efficiency of China's banks.

More recently, Ariff and Can (2007) employed the non-parametric Data Envelopment Analysis (DEA) technique to investigate the cost and profit efficiency of 28 Chinese commercial banks during the period 1995 to 2004. In the second stage regression, they examine the influence of ownership type, size, risk profile, profitability, and key environmental changes on bank efficiency by using the Tobit regression. They find that profit efficiency levels are lower than the cost efficiency, suggesting that the most important inefficiencies are on the revenue side. They suggest that the Joint Stock Commercial Banks (national and city based) have exhibited higher cost and profit efficiency compared to their State Owned Commercial Bank counterparts. Likewise, they find that the medium sized banks are more efficient than their small and large peers.

### **3. METHODOLOGY**

A non-stochastic frontier Data Envelopment Analysis (DEA) method is employed with variable return to scale (VRS) assumption to measure the input-oriented technical efficiency of China banks. DEA involves constructing a non-parametric production frontier based on the actual input-output observations in the sample relative to which efficiency of each bank in the sample is measured (Coelli,

1996). Let us give a short description of the DEA. Assume that there is data on  $K$  inputs and  $M$  outputs for each  $N$  bank. For the  $i$ th bank, these are represented by the vectors  $x_i$  and  $y_i$  respectively. Let us call the  $K \times N$  input matrix –  $X$  and the  $M \times N$  output matrix –  $Y$ . To measure the efficiency for each bank we calculate a ratio of all inputs, such as  $(u'y_i/v'x_i)$  where  $u$  is an  $M \times 1$  vector of output weights and  $v$  is a  $K \times 1$  vector of input weights. To select optimal weights we specify the following mathematical programming problem:

$$\min_{u,v} (u'y_i/v'x_i), \quad (1)$$

$$u'y_i/v'x_i \leq 1, \quad j = 1, 2, \dots, N,$$

$$u, v \geq 0$$

The above formulation has a problem of infinite solutions and therefore we impose the constraint  $v'x_i = 1$ , which leads to:

$$\min_{\mu,\varphi} (\mu'y_i), \quad (2)$$

$$\varphi'x_i = 1$$

$$\mu'y_i - \varphi'x_j \leq 0 \quad j = 1, 2, \dots, N,$$

$$\mu, \varphi \geq 0$$

where we change notation from  $u$  and  $v$  to  $\mu$  and  $\varphi$ , respectively, in order to reflect transformations. Using the duality in linear programming, an equivalent envelopment form of this problem can be derived:

$$\min_{\theta, \lambda} \theta, \quad (3)$$

$$y_i + Y\lambda \geq 0$$

$$\theta x_i - X\lambda \geq 0$$

$$\lambda \geq 0$$

where  $\theta$  is a scalar representing the value of the efficiency score for the  $i$ th bank which will range between 0 and 1.  $\lambda$  is a vector of  $N \times 1$  constants. The linear programming has to be solved  $N$  times, once for each bank in the sample. In order to calculate efficiency under the assumption of variable returns to scale, the convexity constraint ( $N1'\lambda = 1$ ) will be added to ensure that an inefficient bank is only compared against banks of similar size, and therefore provides the basis for measuring economies of scale within the DEA concept.

The analysis under DEA is concerned with understanding how each DMU is performing relative to others, the causes of inefficiency, and how a DMU can improve its performance to become efficient. In that sense, DEA calculates the relative efficiency of each DMU in relation to all other DMUs by using the actual observed values for the inputs and outputs of each DMU. It also identifies, for inefficient DMUs, the sources and level of inefficiency for each of the inputs and outputs. The DEA is carried out by assuming either constant returns to scale (CRS) or variable returns to scale (VRS). The estimation with these two assumptions allows the overall technical efficiency (TE) to be decomposed into two collectively exhaustive components: pure technical (PTE) and scale efficiency (SE) i.e.  $TE = PTE \times SE$ . The former relates to the capability of managers to utilize firms' given resources, whereas the latter refers to exploiting scale economies by operating at a point where the production frontier exhibits constant returns to scale.

Five useful features of DEA are first, each DMU is assigned a single efficiency score, hence allowing ranking amongst the DMUs in the sample. Second, it highlights the areas of improvement for each single DMU. For example, since a DMU is compared to a set of efficient DMUs with similar input-output configurations, the DMU in question is able to identify whether it has used input excessively or its output has been under-produced. Third, there is possibility of making inferences on the DMUs general profile. We should be aware that the technique used here is a comparison between the production performances of each DMU to a set of efficient DMUs. The set of efficient DMUs is called the reference set. The owners of the DMUs may be interested to know which DMU frequently appears in this set. A DMU that appears more than others in this set is called the global leader. Clearly, this information gives huge benefits to the DMU owner, especially in positioning its entity in the market. Fourth, DEA does not require a preconceived structure or specific functional form to be imposed on the data in identifying and determining the efficient frontier, error, and inefficiency structures of the DMUs (Evanoff and Israelvich, 1991; Grifell-Tatje and Lovell, 1997; Bauer et al. 1998). Finally, Avkiran (1999) acknowledges the edge of DEA by stating that this technique allows the researchers to choose any kind of input and output of managerial interest, regardless of different measurement units. There is no need for standardization<sup>lvii</sup>. The main weakness of DEA is that it assumes data are free from measurement errors. Furthermore, since efficiency is measured in a relative way,

its analysis is confined to the sample set used. This means that an efficient DMU found in the analysis cannot be compared with other DMUs outside of the sample.

### 3.1 Specification of Bank Inputs, Outputs, and Data

The definition and measurement of inputs and outputs in the banking function remains a contentious issue among researchers. In the banking theory literature, there are two main approaches competing with each other in this regard: the production and intermediation approaches (Sealey and Lindley, 1977). Under the production approach pioneered by Benston (1965), a financial institution is defined as a producer of services for account holders, that is, they perform transactions on deposit accounts and process documents such as loans. The intermediation approach on the other hand assumes that financial firms act as an intermediary between savers and borrowers and posits total loans and securities as outputs, whereas deposits along with labour and physical capital are defined as inputs.

For the purpose of this study, a variation of the intermediation approach or asset approach originally developed by Sealey and Lindley (1977) will be adopted in the definition of inputs and outputs used. According to Berger and Humphrey (1997), the production approach might be more suitable for branch efficiency studies as at most times bank branches process customer documents and bank funding, while investment decisions are mostly not under the control of branches.

Accordingly, we model China banks as multi-product firms, producing two outputs by employing two inputs. All variables are measured in million of China Yuan (CNY). The input vectors include ( $x1$ ) *Total Deposits*, which includes deposits from customers and other banks and ( $x2$ ) *Fixed Assets*, while ( $y1$ ) *Total Loans*, which includes loans to customers and other banks and ( $y2$ ) *Investments* are the output vectors. To recognize that financial institutions in recent years have increasingly been generating income from non-traditional activities business and fee income generally, ( $y3$ ) *Non-Traditional Activities* is included in the study as an output. The summary of data used to construct the efficiency frontiers are presented in Table 8.

**Table 8** Summary Statistics of the Variables Employed in the DEA Models

	2000 (CNYm)	2001 (CNYm)	2002 (CNYm)	2003 (CNYm)	2004 (CNYm)	2005 (CNYm)
<b>Outputs</b>						
<i>Total Loans (y1)</i>						
Min	3.00	1.10	0.30	0.30	4.02	11.65
Mean	221,397.87	222,743.24	216,776.53	224,392.34	203,805.00	224,086.71
Max	2,402,477.00	2,651,420.00	2,945,139.00	3,326,668.00	3,040,627.00	3,131,096.00
S.D	542,645.76	565,082.20	586,688.40	626,464.83	598,506.07	654,163.04
<i>Investments (y2)</i>						
Min	3.84	4.05	2.56	3.50	4.28	10.79
Mean	146,217.10	139,086.20	134,244.09	134,690.05	132,560.12	180,126.46
Max	1,371,887.00	1,288,057.00	1,493,042.00	1,655,698.00	1,764,195.00	2,784,976.00
S.D	342,172.79	330,816.08	342,619.76	362,395.02	385,247.77	552,963.88
<i>Non-Traditional Activities Items (y3)</i>						
Min	50.60	99.60	130.00	189.70	10.20	21.38
Mean	1,486.07	2,550.96	2,986.64	3,947.33	4,245.93	4,418.18
Max	8,184.00	16,464.00	19,175.00	24,768.00	21,342.00	19,721.00
S.D	2,319.61	4,502.95	5,172.94	6,680.95	6,159.44	6,178.56
<b>Inputs</b>						
<i>Total Deposits (x1)</i>						
Min	0.10	0.30	0.20	0.20	7.49	20.59
Mean	8,388.55	349,321.54	337,457.84	345,633.76	329,305.69	382,747.57
Max	72,615.00	3,933,374.00	4,346,838.00	4,832,186.00	5,289,551.00	5,838,124.00
S.D	20,348.48	875,440.41	895,341.13	949,326.37	979,875.37	1,150,154.70
<i>Fixed Assets (x2)</i>						
Min	1.50	0.10	0.10	0.09	0.12	0.20
Mean	353,334.67	7,618.78	6,679.97	6,344.50	5,548.30	6,241.63
Max	3,572,262.00	63,833.00	69,508.00	71,276.00	78,795.00	112,272.00
S.D	851,271.15	18,855.27	17,977.29	18,043.73	17,071.19	20,396.45

Source: Fitch IBCA BankScope

This study employs annual data for all the State Owned Commercial Banks and the Joint Stock Commercial Banks during the period 2000 to 2005. The main source of data is BankScope database maintained by Fitch/IBCA/Bureau van Dijk, which is considered as the most comprehensive database for research in banking. Following the procedures outlined by Dyson et al. (2001) the choice of banks for this study is based on the fact that they face a common market and compete nationwide. To recap, Dyson et al. (2001) have developed what they describe as a series of homogeneity assumptions, which among others contend that the DMUs of

which the performance are compared should be undertaking similar activities and producing comparable products and services so that a common set of outputs can be defined. As we are looking at relative efficiency, it is important that the DMUs should be sufficiently similar, so that comparisons are meaningful.

#### 4. EMPIRICAL FINDINGS

In this section, we will discuss the technical efficiency change (TE) of the China banking sector, measured by the Data Envelopment Analysis (DEA) method and its decomposition into its mutually exhaustive components of pure technical efficiency (PTE) and scale efficiency (SE) components. The efficiency of the China banking sector is examined first under a traditional DEA model. To examine the impact of non-traditional activities on the technical, pure technical, and scale efficiency of the China banking sector, we extend the analysis to examine the State Owned Commercial Banks and Joint Stock Commercial banks' efficiency derived from an alternative DEA model, which incorporates non-traditional activities output variable.

##### 4.1 Efficiency of the China Banking Sector

Table 9 presents the mean efficiency scores of the China banking sector for the years 2000 (Panel A), 2001 (Panel B), 2002 (Panel C), 2003 (Panel D), 2004 (Panel E), 2005 (Panel F), State Owned Commercial Banks (Panel G), and Joint Stock Commercial Banks (Panel H) under the traditional DEA model. The results suggest that the China banking sector's mean technical efficiency has been on an increasing trend during the earlier part of the studies, before declining during the latter year. The decomposition of technical efficiency into its mutually exhaustive components of pure technical and scale efficiency suggest that scale inefficiency outweighs pure technical inefficiency of the China banking sector during all years. Overall the results seem to imply that the China banking sector has been inefficient in exploiting the economies of scale given the scale of operations.

**Table 9** Summary Statistics of Efficiency Scores (Traditional DEA)

Banks	Mean	Minimum	Maximum	Std. Dev.
PANELA: 2000				
Technical Efficiency	0.779	0.702	1.000	0.075
Pure Technical Efficiency	0.911	0.732	1.000	0.097
Scale Efficiency	0.860	0.726	1.000	0.085

Banks	Mean	Minimum	Maximum	Std. Dev.
<b>PANEL B: 2001</b>				
Technical Efficiency	0.810	0.681	1.000	0.082
Pure Technical Efficiency	0.938	0.704	1.000	0.098
Scale Efficiency	0.869	0.711	1.000	0.087
<b>PANEL C: 2002</b>				
Technical Efficiency	0.953	0.872	1.000	0.053
Pure Technical Efficiency	0.985	0.905	1.000	0.029
Scale Efficiency	0.968	0.887	1.000	0.042
<b>PANEL D: 2003</b>				
Technical Efficiency	0.937	0.874	1.000	0.048
Pure Technical Efficiency	0.982	0.900	1.000	0.031
Scale Efficiency	0.954	0.874	1.000	0.042
<b>Panel E: 2004</b>				
Technical Efficiency	0.960	0.835	1.000	0.045
Pure Technical Efficiency	0.987	0.951	1.000	0.019
Scale Efficiency	0.972	0.835	1.000	0.044
<b>Panel F: 2005</b>				
Technical Efficiency	0.939	0.815	1.000	0.068
Pure Technical Efficiency	0.996	0.973	1.000	0.009
Scale Efficiency	0.943	0.815	1.000	0.069
<b>Panel G: State Owned Commercial Banks</b>				
Technical Efficiency	0.869	0.698	1.000	0.085
Pure Technical Efficiency	0.995	0.941	1.000	0.013
Scale Efficiency	0.873	0.711	1.000	0.085
<b>Panel H: Joint Stock Commercial Banks</b>				
Technical Efficiency	0.907	0.681	1.000	0.098
Pure Technical Efficiency	0.955	0.704	1.000	0.074
Scale Efficiency	0.950	0.758	1.000	0.063

Note: Detailed results are available from the authors upon request

During the period under study, the results seem to suggest that the State Owned Commercial Banks (Panel G) have exhibited mean technical efficiency of 86.9% suggesting mean input waste of 13.1%. In other words, the State Owned Commercial Banks could have produced the same amount of outputs by only using 86.9% of the amount of inputs it uses. On the other hand, the results from Panel H of Table 9 suggest that the Joint Stock Commercial Banks have exhibited a higher mean technical efficiency of 90.7%. Similar to their State Owned Commercial Bank peers, the results seem to suggest that the Joint Stock Commercial Banks'

inefficiency were mainly due to scale rather than pure technical albeit at a lower degree of 5.0% (State Owned Commercial Banks – 5.7%).

#### 4.2 Non-Traditional Activities and the Gap between the Two DEA Models

Having established the traditional DEA model, we now analyze the technical, pure technical, and scale efficiency of the China banking sector under the alternative DEA model. As indicated previously, these results are obtained by modifying the initial DEA model to incorporate an additional output variable in the form of non-traditional activities. It is worth mentioning that the inclusion of non-traditional activities may enhance or worsen decision-making units' (DMUs) efficiency. However, what is more essential is to examine for which option the obtained efficiency score is more representative i.e. either improvement or deterioration in pure technical or scale efficiency. Table 10 present the results derived from the alternative DEA model.

It is apparent from Table 10 that the inclusion of non-traditional activities has resulted in a lower mean technical efficiency of China banks during the earlier years, while the China banking sector's mean technical efficiency seem to improved with the inclusion of non-traditional activities during the latter years. It is also interesting to note that while potential economies of scale seem to be overestimated during the earlier years, the empirical findings seem to suggest that the exclusion of non-traditional activities has resulted in the potential economies to be underestimated during the latter years i.e. by 9.3% and 8.4% during the years 2004 and 2005 respectively. It is also apparent that the inclusion of non-traditional activities has had a greater impact on China banks' mean pure technical efficiency compared to scale efficiency.

**Table 10** *Summary Statistics of Efficiency Scores (Alternative DEA Model)*

Banks	Mean	Minimum	Maximum	Std. Dev.
PANEL A: 2000				
Technical Efficiency	0.975	0.895	1.000	0.038
Pure Technical Efficiency	0.993	0.935	1.000	0.018
Scale Efficiency	0.981	0.895	1.000	0.031
PANEL B: 2001				
Technical Efficiency	0.968	0.838	1.000	0.050
Pure Technical Efficiency	0.994	0.912	1.000	0.024
Scale Efficiency	0.974	0.909	1.000	0.037

Banks	Mean	Minimum	Maximum	Std. Dev.
<b>PANEL C: 2002</b>				
Technical Efficiency	0.971	0.875	1.000	0.045
Pure Technical Efficiency	0.983	0.914	1.000	0.031
Scale Efficiency	0.987	0.875	1.000	0.034
<b>PANEL D: 2003</b>				
Technical Efficiency	0.978	0.909	1.000	0.030
Pure Technical Efficiency	0.994	0.954	1.000	0.015
Scale Efficiency	0.985	0.909	1.000	0.029
<b>Panel E: 2004</b>				
Technical Efficiency	0.873	0.722	1.000	0.108
Pure Technical Efficiency	0.993	0.925	1.000	0.020
Scale Efficiency	0.879	0.722	1.000	0.105
<b>Panel F: 2005</b>				
Technical Efficiency	0.857	0.654	1.000	0.137
Pure Technical Efficiency	0.997	0.975	1.000	0.007
Scale Efficiency	0.859	0.654	1.000	0.134
<b>Panel G: State Owned Commercial Banks</b>				
Technical Efficiency	0.919	0.654	1.000	0.106
Pure Technical Efficiency	1.000	1.000	1.000	0.000
Scale Efficiency	0.919	0.654	1.000	0.106
<b>Panel H: Joint Stock Commercial Banks</b>				
Technical Efficiency	0.944	0.683	1.000	0.085
Pure Technical Efficiency	0.989	0.912	1.000	0.023
Scale Efficiency	0.954	0.683	1.000	0.081

Note: Detailed results are available from the authors upon request

We now turn to discuss the impact of the inclusion of non-traditional activities on the evolution of the State Owned Commercial Banks and Joint Stock Commercial Banks' technical, pure technical, and scale efficiency estimates. The results presented in Panel G and H of Table 10 suggests that the inclusion of non-traditional activities has resulted in a higher technical efficiency of the State Owned Commercial Banks and the Joint Stock Commercial Banks. However, a closer look at the results seems to suggest that the sources of improvement in technical efficiency levels vary according to peer groups. The empirical findings seem to suggest that the inclusion of non-traditional activities has had greater positive impact on the State Owned Commercial Banks' scale efficiency, while the Joint Stock Commercial Banks improvements in technical efficiency was largely attributed to the improvement in pure technical efficiency estimates.

Overall, the results from both the DEA models seems to suggest that in the case of the China banking sector, technical inefficiency has much more to do with the scale of production rather than the inefficient utilization of resources due to managerial best practice. The dominant effect of the scale inefficiency indicates that most of China banks have been operating at ‘incorrect’ scale. They either experience economies of scale (i.e. increasing returns to scale (IRS)) due to being at less than optimum size or diseconomies of scale (i.e. decreasing returns to scale (DRS)) due to being at more than the optimum size. Thus, decreasing or increasing the scale of production could result in cost savings or efficiencies. It is worth highlighting that scale inefficiency due to IRS may be attributed to small banks, whereas, scale inefficiency due to DRS tend to be related to large banks (e.g. Miller and Noulas, 1996; Noulas et al. 1990).

### 4.3 Univariate Test Results

To examine the differences in the mean between the traditional DEA and alternative DEA models, a battery of parametric (*t*-test) and non-parametric (Mann-Whitney [Wilcoxon] and Kruskal-Wallis) tests are performed. The results are presented in Table 11. The results from the parametric and non-parametric tests support the findings that China banks have exhibited a higher mean technical efficiency with the inclusion of non-traditional activities ( $0.93706 > 0.89633$ ) and is statistically significant at the 1% level in the parametric *t*-test ( $p$ -value = 0.005) and the non-parametric Mann-Whitney [Wilcoxon] and Kruskal-Wallis tests. Likewise, it is observed from Table 11 that the inclusion of non-traditional activities has resulted in a higher mean pure technical efficiency levels ( $0.99219 > 0.96627$ ) and is statistically significant at the 1% level in the parametric *t*-test ( $p$ -value = 0.001). The parametric *t*-test result is further confirmed by the non-parametric Mann-Whitney [Wilcoxon] and Kruskal-Wallis tests. It is apparent from Table 11 that the inclusion of non-traditional activities has resulted in a higher mean scale efficiency ( $0.94437 > 0.92795$ ) and is statistically significant at the 1% level in the non-parametric Mann-Whitney [Wilcoxon] and Kruskal-Wallis tests. Overall, it is observed from Table 11 that the magnitude of improvement in the pure technical efficiency estimates is greater compared to the scale efficiency estimates, implying that the improvement in China banks’ technical efficiency is attributed largely to the improvement in pure technical efficiency rather than scale efficiency.

**Table 11** Summary of the Parametric and Non-Parametric Tests

INDIVIDUAL TESTS	TEST GROUPS					
	PARAMETRIC TEST		NON-PARAMETRIC TEST			
	<i>t</i> -test		Mann-Whitney [Wilcoxon Rank-Sum] test		Kruskall-Wallis Equality of Populations test	
TEST STATISTICS	$t$ (Prb > $t$ )		$z$ (Prb > $z$ )		$\chi^2$ (Prb > $\chi^2$ )	
	Mean	$t$	Mean Rank	$z$	Mean Rank	$\chi^2$
<b>Technical Efficiency (TE)</b>						
Traditional DEA Model	0.89633	-2.820***	72.48	-3.270***	72.48	10.696***
Alternative DEA Model	0.93706		96.52		96.52	
<b>Pure Technical Efficiency (PTE)</b>						
Traditional DEA Model	0.96627	-3.459***	75.83	-2.876***	75.83	8.274***
Alternative DEA Model	0.99219		93.17		93.17	
<b>Scale Efficiency (SE)</b>						
Traditional DEA Model	0.92795	-1.269	74.72	-2.661***	74.72	7.083***
Alternative DEA Model	0.94437		94.28		94.28	

Note: Test methodology follows among others, Aly et al. (1990), Elyasiani and Mehdiyan (1992), and Isik and Hassan (2003). Parametric (*t*-test) and non-parametric (Kruskall-Wallis and Mann-Whitney) tests test the null hypothesis of equal mean between the two models.

\*\*\* indicates significant at the 1% level.

## 5. CONCLUSIONS AND DIRECTIONS FOR FUTURE RESEARCH

In this paper, we examined the performance of the China banking sector during the period 2000-2005. Several efficiency estimates of individual banks are estimated by using the non-parametric Data Envelopment Analysis (DEA) approach. Two different models have been employed to differentiate how efficiency scores vary with changes in inputs and outputs. To further complement the results of the efficiency measures derived from the DEA model, we have analyzed the determinants of the State Owned Commercial Banks and the Joint Stock Commercial Banks' efficiency by using various accounting measures of bank performance which are commonly being used by industry leaders and regulators.

The empirical findings suggest that during the period of study, scale inefficiency outweighs pure technical inefficiency in determining the China banking sector's technical efficiency implying that the China banking sector has been inefficient in exploiting the economies of scale given their scale of operations. The results suggest that the inclusion of non-traditional activities has mixed impact on China banks' efficiency estimates. The results suggest that while the State

Owned Commercial Banks' technical efficiency are enhanced attributed to the improvement in scale efficiency, the Joint Stock Commercial Banks' technical efficiency improved attributed to the improvement in pure technical efficiency.

Due to its limitations, the paper could be further extended in a variety of ways. Firstly, future research into the efficiency of the Chinese banking sector could consider the production function along with the intermediation function. Secondly, the non-parametric frontier analysis adopted in this paper could be combined with the stochastic frontier analysis method of estimating the frontier. This should testify to the robustness of the results against alternative estimation methods. Thirdly, investigation into productivity changes over time, as a result of a technical change or technological progress or regress by employing the Malmquist Productivity Index (MPI) could yet be another extension to the paper. Finally, future studies could also follow the approach by Stiroh (2006) and Stiroh and Rumble (2006) to identify the determinants of risk, measured by equity market volatility and to examine how they have evolved by using equity returns of the publicly traded China banks.

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<sup>lvii</sup> An additional advantage according to Canhoto and Dermine (2003) is that the DEA technique is preferred to parametric methods is when the sample size is small.



## SHANGHAI, DUBAI, MUMBAI OR GOODBYE?

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***Abstract:** Starting in 2007, Sovereign Wealth Funds (SWFs) from Asia and the Middle East have invested billions of dollars in major U.S. financial firms. The primary driving force behind their growth is rising commodity prices, in particular oil. Given that SWFs represent a relatively new, cash-rich investment group, we studied the public policy concerns with their investments, SWFs mode of entry, and how does the market react to the investment. SWFs lack of transparency with regards to their investment motives and governance structure is cause for concern. While taking full opportunity of depressed security prices as a result of the 2007-2008 financial crisis, they are also being prudent by investing mostly in preferred stocks and fixed-income convertible securities of large U.S. corporations that are followed by many analysts and are highly liquid. Despite investing handsomely in U.S. targets and adopting a hands-off approach toward management; the liquidity crisis continues to perpetuate the decline in SWF-targets' stock price post-investment. Using an event study parameter approach, we found the short-run market reaction to be statistically insignificant in 11 out of 12 announcements of SWF investments; but in the months following the investment, SWF-targets underperform both the S&P500 and the Dow Jones Financial Services Index Fund.*

***Keywords:** Stock Market, Sovereign Wealth Funds (SWFs), SWF-targets' stock price post-investment*

***JEL Codes:** G1, G11*

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The U.S. public and federal regulators are taking a closer look at sovereign wealth funds (SWFs) as they invest generously in major U.S. firms, especially financial ones. Since 2007, SWFs from China, Dubai, Kuwait and Singapore have invested almost \$50 billion in major U.S. financial firms like Citigroup, Merrill Lynch, Morgan Stanley, Bear Stearns (which has now been acquired by JPMorgan Chase), Blackstone Group, and Och-Ziff Capital Management Group (see Table 1). According to Morgan Stanley, SWFs today control more cash than the world's hedge funds combined (\$2.8 trillion vs. \$1.7 trillion), and are expected to continue to grow.<sup>1</sup> Nonetheless, SWFs are generally regarded as “not transparent,” and the public fears that these foreign government-owned investment funds could potentially be used for geopolitical gains at the expense of the U.S. – a fear echoed by the SEC Chairman as well.<sup>2</sup>

Most SWFs investing in the U.S. are based in Asia and the Middle East, and by investing in the U.S., they want to reduce their dependence on their traditional sources of export revenues. For example, by the late 1980s, the Kuwait government was earning more from overseas investments than oil sales, and the investment income served them well during the Gulf War and its aftermath.<sup>3</sup> However, many SWFs do not report or publish their objectives, accounts, and assets and this is a cause of concern for U.S. regulators and the American public. Given that SWFs represent a relatively new, cash-rich investment group, it is important to study their objectives (i.e., to understand why they are investing in the U.S.) and economic impact (i.e., how they can influence the U.S. financial markets). This intellectual inquiry motivates our paper.

We focused specifically in this paper on the SWFs that made recent high-profile investments in the U.S., since they are the subject of considerable interest to major financial firms, regulators and politicians. Due to their lack of reporting and their involvement in many privately-negotiated deals, it was also a challenge to collect complete and comprehensive data on SWFs.

The rest of the paper proceeds as follows. In Section I, we define SWFs and list their motives and investment strategies, followed by Section II, which compares SWFs to other government-owned investment institutions. In Section III, we present a model for valuing SWFs that permits us to understand their investment behavior, and in Section IV we analyze the outstanding issues with SWFs. We evaluated the U.S. stock market reaction to SWFs' investment in section V. In Section VI, we considered the ongoing efforts in the U.S. to improve

SWF transparency; and, in Section VII, we formulated short-term expectations about SWFs. We conclude in Section VIII.

### **1. DEFINITION AND MOTIVES OF SWFS**

While there is not a precise definition for SWFs, the following definition is a fairly comprehensive one: “SWFs are vehicles to manage public funds”:<sup>4</sup>

- SWFs are predominantly engaged in cross-border investment seeking a higher risk-return combination than the one offered by safer investment like government bonds.
- SWFs obtain their capital mainly from foreign exchange reserves or current account surpluses.
- SWFs are controlled by their national government.

Their possible investment motives include one or more of the following:

- To invest their foreign exchange reserves or current account surpluses;
- To diversify their asset holdings or invest in assets that are negatively correlated to their major exports (for example, some oil exporting nations want to diversify their nearly exclusive reliance on oil revenue; others want to limit the impact of volatile commodity prices and “smooth” revenue from exports);
- To earn a higher rate-of-return than the one offered on safer investments, like Treasury Bonds;
- To accumulate earnings to pay future obligations (for example, pension obligations);
- To learn new skills and technology from developed nations and transfer them home; and
- To influence foreign policies.

Based on an interview with the chiefs of the Kuwait Investment Authority (KIA), Dubai International Capital (DIC), and Istithmar Fund (three SWFs from the Middle East) published in *BusinessWeek* (January 21, 2008), we garner that SWFs invest primarily in stocks and private equity of large U.S. firms.

### **2. TYPES OF SWFS**

SWFs can be classified as commodity versus non-commodity funds based on their sources of financing.<sup>5</sup> “Commodity SWFs” are funded by oil or commodity export revenues and “non-commodity SWFs” are funded through transfers from

official foreign exchange reserves. In that regard, most SWFs from the Middle East would be classified as oil “commodity SWFs,” while those from Asia would be classified as “non-commodity SWFs.”

According to researchers,<sup>6</sup> SWFs belong to a continuum of sovereign investment vehicles that also includes central banks, sovereign stabilization funds, sovereign saving funds, government investment corporations, and government-owned enterprises, as we present in Figure 8.<sup>7</sup> SWFs include Sovereign Stabilization Funds (designed to stabilize revenue, for example, for an oil economy the fund accumulates cash when oil revenue is high, and provides funding when oil revenue is low), Sovereign Saving Funds (acts as intergenerational funds with excess revenue/reserve saved for future generations) and Government Investment Corporations (to invest in mid to high risk-return securities abroad). Unlike central banks, SWFs do not have the day-to-day responsibility for maintaining the stability of the national currency and money supply. Therefore, most SWFs can afford to lengthen their investment horizon and assume more risk with the objective of earning high rates of return.

<i>Sovereign Investment Vehicles:</i>		<i>Investment Horizon</i>	<i>Risk Tolerance</i>	<i>Return on Investment</i>
		<b>Shortest</b>	<b>Lowest</b>	<b>Lowest</b>
	Central Banks	↓	↓	↓
Sovereign	Sovereign Stabilization Funds	↓	↓	↓
Wealth	Sovereign Saving Funds	↓	↓	↓
Funds	Government Investment Corporations	↓	↓	↓
	Government Owned Enterprises	↓	↓	↓
		<b>Longest</b>	<b>Highest</b>	<b>Highest</b>

**Figure 8** *Types and Investment Characteristics of Sovereign Investment Vehicles*

### 3. VALUATION OF SWFS

The Discounted Cash Flow analysis can be used to determine the value of SWFs. For example, consider a fund that invests all of its money in a project that pays cash flow  $CF$  every year for  $n$  number of years. The value of the fund is the present value of the  $CF$ s that it earns over the  $n$  number of years. The formula for valuing the fund is as follows:

$$Value = \sum_{t=1}^n \frac{CF_t}{(1+k)^t} \quad (1)$$

where  $CF$  represents cash flow,  $t$  is the year,  $n$  is the total number of years, and  $k$  is the required rate-of-return, or cost of capital. Usually, for a publicly incorporated fund,  $k$  is the weighted average cost of debt and equity. However, since they do not borrow money or sell stock to the public, there is neither a cost of debt nor a cost of equity for SWFs, and this allows them to charge a lower cost of capital to their investments.

Whether small or large, most private funds that borrow money face the risk of bankruptcy, and as a result, their cost of capital includes a premium for default risk. Usually, the higher the risk of default, the higher the default risk premium, and the higher the funds' cost of capital. However, most SWFs do not borrow money and are backed by their government, so their cost of capital does not include a default risk premium<sup>8</sup>, and this permits them to supply funds at a lower required rate-of-return than a private fund.<sup>9</sup>

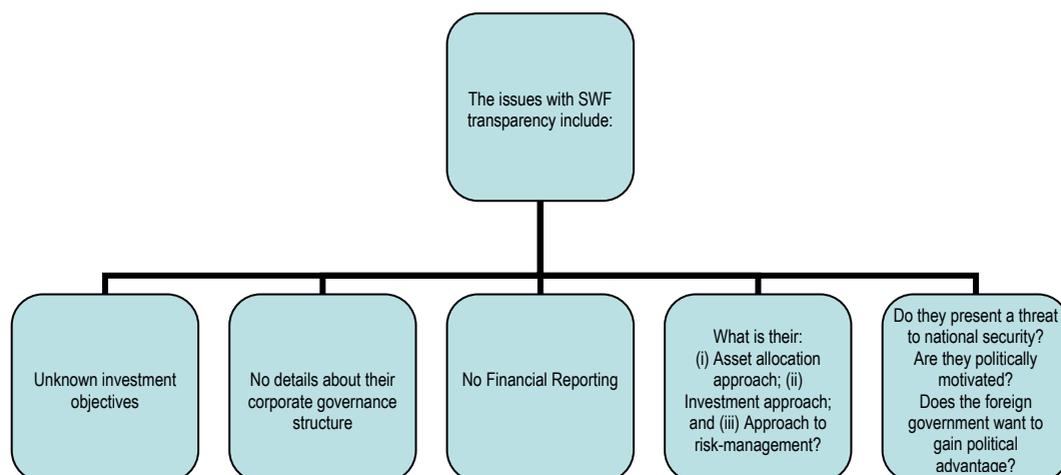
Referring back to Equation (1) and keeping  $CF_t$  constant, a lower value for  $k$  increases the present value of the expected cash flows. This makes a given investment more valuable to SWFs than to other funds and this could explain why SWFs invest in projects that are not likely to be accepted by funds that are financed with debt and equity. The fact that SWFs can accept a lower rate-of-return implies that they are more likely to provide financing during a financial crisis than funds that are financed by debt holders and stockholders. For example, the subprime mortgage crisis in late 2007 and early 2008 increased the cost of capital for many financial firms. Since the required rate-of-return for SWFs is generally lower than the rate charged by debt holders and/or stockholders, corporations in need of financing during the credit crisis turned to the less "costly" SWFs for cash. Therefore, recent experience suggests that the SWFs can mitigate the adverse effects of a liquidity or credit crisis.

On a larger scale, SWFs facilitate the global allocation of credit and capital from countries with excess capital to firms that need capital. And not only do SWFs improve access to capital for corporations, they can make it available at a lower rate (as explained above). This, in turn, potentially increases the value of the investment for which the financing is needed.<sup>10</sup> As a result, value is added to the SWF-financed corporation. Additionally, SWFs are predominantly passive investors and are not demanding boardroom changes or creating management upheaval in the U.S. companies they have been investing – at least so far.

Nonetheless, there are risks associated with SWFs. One potential risk with SWFs lies in the fact that so little is known about them. Even though a SWF may assert that it is passively investing for the long-run, a change in its government or policy may alter this investment stance for economic or geo-political reasons, and a new government may want to sell some or all of the investment. Some SWFs, for example the China Investment Corp and the Kuwait Investment Authority, faced domestic critics for recent losses on their investments, hence putting some pressure on their government to sell their investments.<sup>11</sup> If a SWF does ever decide to sell off its major holdings, the sale may potentially disrupt the market in the corporation's securities. Next, SWFs are government-owned and managed by civil servants, so companies receiving SWF-financing have to deal with a new set of investor-bureaucrats. Moreover, equity investments by SWFs dilute the ownership of existing shareholders, hence reducing their claim on future cash flows.

#### **4. WHAT ARE THE OUTSTANDING ISSUES WITH SWFs?**

People want to know more about the investment objectives of SWFs. Much of the concern has to do with the fact that many of the cash-rich SWFs are based in countries that may not always be friendly with the U.S. Among the concerns levied against SWFs are: (i) their perceived lack of transparency with regards to their operations, wealth and corporate governance structures;<sup>12</sup> (ii) the threat of a rival nation employing SWF capital to acquire strategic corporate assets and use them as a potential "weapon" against the U.S.; (iii) some SWFs adopt a non-traditional approach to investing. For example, many of them "bailed out" major U.S. financial firms in the subprime mortgage crisis of 2007-2008 when traditional investors did not. Investors feared that the loss caused by the credit crisis would persist and they needed more time to determine the full extent of the crisis before they committed more funds; while SWFs, on the other hand, invested generously during the crisis; and (iv) a foreign government could use a SWF to acquire proprietary knowledge, patented technology or trade secrets, and then transfer this knowledge back to the home country. According to researchers, such concerns about SWFs beg the question as to whether such investments are commercially-motivated or politically-motivated.<sup>13</sup> We summarized more of the outstanding issues associated with SWF transparency in Figure 9.



**Figure 9** *Issues with Sovereign Wealth Funds*

## 5. MARKET REACTION TO SWF INVESTMENTS

To gauge the market reaction in the U.S. to investments by SWFs, we first identified the SWF investments that received the most media attention lately, by searching The Wall Street Journal, BusinessWeek, LexisNexis Academic and the SWF Institute.<sup>14</sup> We next identified the specific dates of the first public announcements of those investments. Our first goal was to measure the return on the announcement day as an indication of market reaction. A positive return would show signs of market enthusiasm and a negative return would indicate the opposite.

Collecting such data turns out to be challenging because there is not a systematic way in which SWFs invest (see Table 1). Some SWFs buy U.S. stocks on the open market. Others invest in preferred stocks that are convertible into common stock, like Korea Investment Corporation's \$2 billion investment in Merrill Lynch convertible preferred stock, and Abu Dhabi Investment Authority's \$7.5 billion investment in a special class of high-yielding convertible stock in Citigroup.

Some SWFs participate in secondary equity offerings (see examples in Table 1, Panel C), while others participate in initial public offerings (see examples in Table 1, Panel D). We also observed cases where an investor sells stock directly to a SWF (for example, the U.S. based private-equity firm Arcapita sold its stake in Loehmann's Holdings to Dubai's Istithmar for \$300 million in May 2006). Some

SWFs invest in private companies (for example, UAE's Mubadala Fund paid \$1.35 billion in September 2006 for a 7.5 percent stake in private equity firm Carlyle Group). Other SWFs participate in joint ventures with private equity firms (for example, in 2007, Kuwait Investment Authority invested \$300 million in Texas utility TXU alongside private equity firms KKR and TPG).

Another problem obtaining complete data on SWFs is that not all announced deals are completed. Either the SWF opts out of the proposed investment (for example, China's CITIC Securities Co. Ltd proposed investment in Bear Stearns in 2007 was subsequently withdrawn) or the deal is not yet effective.

For some SWF deals, the exact details on the amount invested or the stake purchased are not available, like Qatar Investment Authority's acquisition of an undisclosed minority stake in Fortress Investment Group. In other cases, a revised deal is announced subsequent to the initial announcement. For example, in January 2008, MGM Mirage made a revised offer to Dubai World by offering additional shares. In other cases, the proportion of equity purchased and the proportion of voting power are not equal, such as the case of the Chinese government purchasing a 9.9 percent nonvoting stake in Blackstone. A few SWFs invest through a subsidiary under a different name, for example, Singapore Government Investment Corporation's (SGIC) stake in Syniverse Holdings Inc., is also owned by a subsidiary of SGIC named Snowlake Investment Pte Ltd. It is also the case that there are many funds from the UAE that are investing in the U.S. and it is not clear which ones are actually SWFs. Despite the challenges outlined above, we are able to identify 15 major SWF deals in 2007 and 2008 that we present in Table 12.

#### ***A. Which SWFs Are Investing in the U.S.?***

In Table 12, we present various characteristics about the target firm and the SWF acquirer in 15 SWF deals. We observe that these major SWF investments in the U.S. started in the second half of 2007 and coincided with the subprime mortgage crisis. In Panel A of Table 12 there are 12 target U.S. public corporations identified, and except for Advanced Micro Devices and MGM Mirage, all of them are financial corporations (i.e., investment advisors and/or security brokers and/or dealers) and most of them incurred major losses linked to the subprime mortgage crisis. All of the target firms are NYSE-listed, except for one NASDAQ listing, suggesting that SWFs prefer large-capitalization stocks that are frequently traded, and that benefit from increased investor recognition and enhanced liquidity. These large-cap stocks are also typically followed by many analysts and, compared to

other stocks, would contain the least amount of asymmetric information. The only non-NYSE target company in Table 12, Panel A, is NASDAQ Stock Market Inc., which is yet another major large-cap company. Panel B of Table 12 presents three Initial Public Offerings (IPOs) in which SWFs participated, and once again, we observe that the targets are major financial firms that are listed on the NYSE post-IPO.

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<sup>1</sup> *Business Week*, November 12, 2007.

<sup>2</sup> *Ibidem*

<sup>3</sup> G. Bahgat, "Oil Funds: Threat or Opportunity?" *Oil & Gas Journal*, (April 2008).

<sup>4</sup> E. Borgne and P. Medas, "Sovereign Wealth Funds in the Pacific Island Countries: Macro-Fiscal Linkages," Working Paper, *International Monetary Fund* (2007.)

<sup>5</sup> R. Kimmitt (2008), "Public Footprints in Private Markets," *Foreign Affairs*, January/February, pp. 119-130.

<sup>6</sup> S. Butt, A. Shivdasani, C. Stendevad, A. Wyman (2008), "Sovereign Wealth Funds: A Growing Global Force in Corporate Finance," *Journal of Applied Corporate Finance*, Vol. 20, pp. 73-83.

<sup>7</sup> Central Banks have short investment horizons and invest mostly in risk-free assets, like U.S. Treasury bills. Government-owned enterprises conduct business, such as manufacturing, and face real business risks.

<sup>8</sup> There is one exception. The Dubai International Capital's debt-to-equity ratio is approximately 4:1 (*Business Week*, January 21, 2008). Its lenders include HSBC, Barclays and RBS.

<sup>9</sup> This would not apply for Pension Reserve Funds.

<sup>10</sup> Further, SWFs that invest in convertible fixed-income securities provide additional value to corporations in the form of an interest tax shield because the fixed income paid to the SWFs is tax-deductible.

<sup>11</sup> *Wall Street Journal*, February 28 and March 31, 2008.

<sup>12</sup> This does not apply in the case of the SWF from Norway.

<sup>13</sup> J. Aizenman and R. Glick (2007), "Sovereign Wealth Funds: Stumbling Blocks or Stepping Stones to Financial Globalization?" *Federal Reserve Bank San Francisco Economic Letter*, December.

<sup>14</sup> The Sovereign Wealth Fund Institute ([www.swfinstitute.org/aboutus.php](http://www.swfinstitute.org/aboutus.php)) is an impartial organization designed to study Sovereign Wealth Funds and their impact on global economics, politics, financial markets, trade, and public policy.

**Table 12** *Sovereign Wealth Funds' Investments in the U.S.*

<b>Panel A: Investments in publicly-listed firms</b>					
<i>Date</i>	<i>Target</i>	<i>Target's Business</i>	<i>Target Exchange</i>	<i>Acquirer</i>	<i>Origin</i>
25-Jul-07	Fortress Inv. Group LLC	Asset Management	NYSE	Qatar Investment Authority	Qatar
22-Aug-07	MGM Mirage	Resorts & Casinos	NYSE	Dubai World	UAE
20-Sep-07	Nasdaq Stock Market Inc.	Security & Commodity Exch	Nasdaq	Borse Dubai	UAE
23-Oct-07	Bear Stearns Co.s Inc.	Security Brokers & Dealers	NYSE	CITIC Securities Co. Ltd	China
16-Nov-07	Advanced Micro Devices Inc.	Semiconductors	NYSE	Mubadala Development Co.	UAE
26-Nov-07	Citigroup Inc.	Money Center Banks	NYSE	Abu Dhabi Inv. Authority	UAE
19-Dec-07	Morgan Stanley	Security Brokers & Dealers	NYSE	China Investment Corp.	China
24-Dec-07	Merrill Lynch & Co. Inc.	Security Brokers & Dealers	NYSE	Temasek Holdings (Pte) Ltd	Singapore
15-Jan-08	Merrill Lynch & Co. Inc.	Security Brokers & Dealers	NYSE	Kuwait Investment Authority	Kuwait
15-Jan-08	Merrill Lynch & Co. Inc.	Security Brokers & Dealers	NYSE	Korea Investment Corporation	South Korea
15-Jan-08	Citigroup Inc.	Money Center Banks	NYSE	Kuwait Investment Authority	Kuwait
15-Jan-08	Citigroup Inc.	Money Center Banks	NYSE	Government Inv. Corp.	Singapore
<b>Panel B: Investments in Initial Public Offerings</b>					
<i>Date</i>	<i>Target</i>	<i>Target Industry</i>	<i>Target Exchange</i>	<i>Acquirer</i>	<i>Origin</i>
22-Jun-07	Blackstone Group LLC	Asset Management	NYSE	China State Investment Corp.	China
29-Oct-07	Och-Ziff Capital Mgmt Grp LLC	Asset Management	NYSE	Dubai International Capital	UAE
7-Apr-08	Visa Inc.	Business Services	NYSE	Kuwait Investment Authority	Kuwait

(continued)

**Table 12** (continued)**Panel C: Investments in publicly-listed firms**

<i>Date</i>	<i>Target</i>	<i>Acquirer</i>	<i>Transparency</i>	<i>Amount (\$Mil.)</i>	<i>Transaction/Security</i>	<i>Stake (%)</i>
25-Jul-07	Fortress Inv Group LLC	Qatar Investment Authority	1	Undisclosed	Privately negotiated Seasoned Equity Offering & Public Tender	Minority
22-Aug-07	MGM Mirage	Dubai World	5	5,200		9.50
20-Sep-07	Nasdaq Stock Market Inc.	Borse Dubai	5	Cross Invest	Cross Invest	19.99
23-Oct-07	Bear Stearns Co.s Inc.	CITIC Securities Co. Ltd	2	Cr. Inv. 1,000	Withdrawn	9.90
16-Nov-07	Advanced Micro Devices Inc.	Mubadala Development Co.	3	608	Secondary Equity Offering	8.00
26-Nov-07	Citigroup Inc.	Abu Dhabi Inv. Authority	3	7,500	Convertible Preferred	4.90
19-Dec-07	Morgan Stanley	China Investment Corp.	2	5,000	Convertible Preferred Newly issued common stock in a private placement	9.90
24-Dec-07	Merrill Lynch & Co. Inc.	Temasek Holdings (Pte) Ltd	7	4,400		9.40
15-Jan-08	Merrill Lynch & Co. Inc.	Kuwait Investment Authority	6	2,000	Convertible Preferred	3.00
15-Jan-08	Merrill Lynch & Co. Inc.	Korea Investment Corporation	9	2,000	Convertible Preferred	3.00
15-Jan-08	Citigroup Inc.	Kuwait Investment Authority	6	3,000	Convertible Preferred	1.60
15-Jan-08	Citigroup Inc.	Government Inv. Corp.	6	6,880	Convertible Preferred	3.70

**Panel D: Investments in Initial Public Offerings**

<i>Date</i>	<i>Target</i>	<i>Acquirer</i>	<i>Transparency</i>	<i>Amount (\$Mil.)</i>	<i>Transaction/Security</i>	<i>Stake (%)</i>
22-Jun-07	Blackstone Group LLC	China State Investment Corp.	2	3,000	Initial Public Offering	9.70
29-Oct-07	Och-Ziff Capital Mgmt Grp LLC	Dubai International Capital	5	1,250	Initial Public Offering	9.90
7-Apr-08	Visa Inc.	Kuwait Investment Authority	6	800	Initial Public Offering	4.00

In Table 12, Panels C and D, we present the Linaburg-Maduell transparency index, obtained from the Sovereign Wealth Fund Institute, for the SWFs investing in the U.S. The lowest rating (least transparent) a SWF can receive is a 1 and the highest (most transparent) is a 10. The Sovereign Wealth Fund Institute recommends a minimum transparency rating of 8 in order to claim adequate transparency. The mean and median transparency index for SWFs investing in the U.S. is 5, and most of them fail the Sovereign Wealth Fund Institute's transparency minimum. Among the least transparent, we found the Qatar Investment Authority (Index = 1), China Investment Corporation (Index = 2), Abu Dhabi Investment Authority (Index = 3), and Mubadala Development Company (Index = 3).

With regards to the amount invested, we found that the largest investment occurred in November 2007 when Abu Dhabi Investment Authority invested \$7.5 billion in Citigroup Inc. The second highest investment was Government of Singapore Investment Corp.'s \$6.88 billion investment in Citigroup Inc. in January 2008. The investments presented in Panels C and D of Table 12 total to more than \$42 billion, and the average SWF investment is close to \$3.5 billion.

Panel C of Table 12 shows that the most common form of transaction by SWFs is the purchase of convertible preferred securities, representing 6 out of the 12 major SWF deals in 2007-2008. Since most of the SWF investments targeted financial firms and occurred during the U.S. subprime mortgage crisis, the data suggests that SWFs adopt a prudent investment strategy in the sense that preferred stocks and other fixed-income securities are safer investments during a financial crisis, while common stocks are more sought-after during a bullish period. Most of the convertible preferred stocks issued to SWFs have mandatory conversion features within a few years (the most common conversion period occurs in three years).

The ownership stakes purchased by SWFs were all less than 10 percent, except for the transaction between Nasdaq and Borse Dubai which was for a 19.99 percent share (see Panels C and D of Table 1). In half of the 12 major transactions in Panel C of Table 12, the ownership stake purchased was less than five percent. In most cases, if a SWF (or any other investment group) holds more than five percent of a public company's outstanding common stock, the investor would be considered a "block holder" and the company has to disclose it to the SEC in its Annual Reports and Proxy Statements. An investment below five percent also avoids a Federal Reserve investigation. In the transaction between Nasdaq and

Borse Dubai, the voting rights of Borse Dubai are limited to 5 percent, even though it bought 19.99 percent of Nasdaq's share capital.

Although there are some advantages to minority ownership, it is not necessarily the case that all SWFs are buying minority stakes to evade regulations. A study by the consulting company Monitor Group reports that half of 420 equity investments by SWFs (for which it could trace the ownership interests) since 2000 involved purchases of majority stakes.<sup>1</sup> Since we report a relatively large number of minority-stake acquisitions by SWFs of primarily convertible securities during a period of financial crisis (2007-2008), we cannot rule out the possibility that the recent minority-stake acquisitions were motivated more by a prudent and cautious investment strategy than by regulatory concerns. That is, the depressed security prices during a period of financial distress afforded the SWFs an opportunity to invest in the U.S. cheaply; however, the SWFs were wary of the consequences, and, consequently, invested in minority stakes.

### ***B. Stock Market Reaction to Announcements of SWF Investment***

Given the controversy about SWF investment in the U.S., we conducted an empirical investigation to measure the market reaction to the announcement of SWFs' investments in U.S. target firms. Specifically, we attempted to answer the question: After controlling for the overall return on the market around the time of an announcement, do SWF investments have any significant impact, either positive or negative, on the stock returns of their targets? To answer this question, we used the event parameter approach whereby the market model is augmented by adding a dummy variable to identify the event period as follows:

$$R_t = \alpha + \beta R_{mt} + \gamma d + \varepsilon_t \quad (2)$$

where  $R_t$  is the stock return on day  $t$ ,  $R_{mt}$  is the return on the *S&P500* on day  $t$ ,  $d$  is the *Event Dummy* that takes a value of 1 for the event window  $[-1,0,+1]$  and 0 otherwise, where day 0 is the day the SWF investment is announced. The model was estimated using daily returns starting 30 days prior to the event day 0 and ending 30 days following the event day 0. The return on the *S&P500* was used as a proxy for market return. Stock price data were collected from the *Global Financial Database*. We have presented the results in Panel A of Table 13.

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<sup>1</sup> *Wall Street Journal*, June 06, 2008.

**Table 13** Market reaction to Investments by Sovereign Wealth Funds**Panel A: Investments in publicly-listed firms**

This table shows the results of running the event parameter approach where the market model is augmented by adding a dummy variable

to identify the event period. The model is as follows:  $R_t = \alpha + \beta R_{mt} + \gamma d + \varepsilon_t$  where  $R_t$  is the stock return on day  $t$ ,  $R_{mt}$  is the return on the S&P500 on day  $t$ ,  $d$  is the *Event Dummy* that takes a value of 1 for the event window [-1,0,+1] and 0 otherwise, with day 0 is the day the SWF investment is first announced to the market. The model is estimated using daily returns starting 30 days prior to the event day 0 and ending 30 days following the event day 0. The return on the S&P500 is used as the proxy for market return. Stock price data are collected from the *Global Financial Database*.

The symbol \*\*\* denotes statistical significance at the 5 percent level or better.

Date	Target	Acquirer	Parameter Estimate		F Value	Adjusted R <sup>2</sup>
			SP500	Event Dummy		
25-Jul-07	Fortress Investment Group LLC	Qatar Investment Authority	1.14982*** (0.35668)	-0.03563 (0.02002)	8.55***	0.1985
22-Aug-07	MGM Mirage	Dubai World	0.69055*** (0.18858)	0.04567*** (0.01080)	16.66***	0.3392
20-Sep-07	Nasdaq Stock Market Inc.	Borse Dubai	0.79639*** (0.22091)	-0.00692 (0.01168)	6.64***	0.1560
23-Oct-07	Bear Stearns Co.s Inc.	CITIC Securities Co. Ltd	1.66762*** (0.22691)	-0.01225 (0.01284)	27.18***	0.4619
16-Nov-07	Advanced Micro Devices Inc.	Mubadala Development Co.	0.89703*** (0.24778)	0.01271 (0.01438)	6.63***	0.1559
26-Nov-07	Citigroup Inc.	Abu Dhabi Inv. Authority	1.47580*** (0.18117)	-0.00233 (0.01102)	33.25***	0.5140
19-Dec-07	Morgan Stanley	China Investment Corp.	1.59697*** (0.20947)	0.00757 (0.01423)	29.70***	0.4848
24-Dec-07	Merrill Lynch & Co. Inc.	Temasek Holdings (Pte) Ltd	1.92491*** (0.22168)	-0.02002 (0.01458)	37.70***	0.5461
15-Jan-08	Merrill Lynch & Co. Inc.	Kuwait Investment Authority	1.79255*** (0.24173)	0.01474 (0.01454)	27.56***	0.4655
15-Jan-08	Merrill Lynch & Co. Inc.	Korea Investment Corporation	1.79255***	0.01474	27.56***	0.4655

<i>Date</i>	<i>Target</i>	<i>Acquirer</i>	<i>Parameter Estimate (Standard Error)</i>			
15-Jan-08	Citigroup Inc.	Government Inv. Corp.	SP500 1.61886*** (0.17836)	Event Dummy -0.01528 (0.01072)	F Value 43.68***	Adjusted R <sup>2</sup> 0.5832

**Panel B: Investments in Initial Public Offerings**

In this panel, we calculate the first-day underpricing of IPOs in which SWFs participated. The formula used to compute underpricing is as follows:  $[\text{Closing Price on first day of trading} - \text{Offer Price}] / \text{Offer Price}$ . A positive figure represents underpricing while a negative figure represents overpricing.

<i>Date</i>	<i>Target</i>	<i>Acquirer</i>	<i>Offer Price</i>	<i>Closing Price</i>	<i>Underpricing</i>
22-Jun-07	Blackstone Group LLC	China State Investment Corp.	\$ 29.61	\$ 35.06	18.43%
29-Oct-07	Och-Ziff Capital Mgmt Grp LLC	Dubai International Capital	\$ 32.00	\$ 30.12	-5.88%
7-Apr-08	Visa Inc.	Kuwait Investment Authority	\$ 44.00	\$ 56.50	28.41%

Out of the 12 SWF investments, the coefficient of the event dummy is statistically significant at conventional levels in only one case, that of Dubai World's \$5.2 billion investment in MGM Mirage. The latter is a casino giant and \$2.7 billion of the investment would be used as a joint-venture in a major Las Vegas project. The investment was not related to the financial crisis in the U.S. during that period. It is possible that the expected costs due to financial distress weigh heavily on most of the target firms receiving SWF investments in 2007 and 2008. According to the Signaling theory of capital structure, firms with uncertain prospect would be willing to sell equity to raise cash. Based on the Pecking Order Hypothesis, firms with limited retained earnings, few marketable securities, and exhausted borrowing capacity are most likely to sell convertible securities and/or common stock.

In Panel B of Table 13, we analyzed the market reaction to IPOs in which SWFs participated. We measured the market reaction as the difference between the offer price to the SWF and the closing price on the first day of trading. Usually, the offer price is lower than the closing price. Underpricing would generally suggest market interest in an IPO. With underpricing averaging 12 percent starting in 2001 (following the Internet bubble years), the IPO deals to China Investment Corp. (underpricing of 18 percent) and Kuwait Investment Authority (underpricing of 28 percent) appear to be profitable ones.<sup>1</sup> Given that SWFs are actively looking for investments in large, liquid, well-known organizations that trade on large exchanges, the marketing efforts and costs involved in selling the IPO of Blackstone Group LLC and Visa Inc. to SWFs could be low.<sup>2</sup> As a result, the IPO firms were able to share some of the savings by offering lower offer prices to SWFs.

### ***C. Short- to Medium-term Performance of Targets Following Investment by SWFs***

In Table 14 we present the short- to medium-term stock performance of SWF targets. On average, the targets' stock price performance is negative in the months following SWF investments. A "Buy and Hold Return" is also calculated as follows:

$$BHR_m = \left[ \prod_{n=1}^m (1 + Return_n) \right] - 1 \quad (3)$$

where  $BHR_m$  is the Buy and Hold Return up to month  $m$  and  $Return_n$  is the return for month  $n$ . The results displayed in Table 14 show that the mean BHR is negative 7 percent for the first month, and decreases to negative 64 percent by the end of month 11. In other words, an investor, who buys the target firm's stock upon announcement of the SWF investment, and holds it for the next 11 months, would lose 64 percent on her investment. The corresponding period mean BHR on the *S&P500* is negative 21 percent. In Panel B of Table 14, we show the short- to medium-term performance of IPOs in which SWFs participate. The results suggest that, on average, the stock price performance is mostly negative in the months following the IPO. The average BHR for the 12 months following the IPO is negative 16 percent. We also present corresponding returns on the *S&P500* for comparison purposes. We observe that, on average, the target firms underperform the *S&P500*.

The above short- to medium-term underperformance suggests that, to many investors, SWF investments do not improve the firm's outlook. Most SWF investments between mid-2007 and early-2008 were in financial firms, and that period coincides with the subprime mortgage crisis that continues to negatively affect financial firms in the U.S. today. The period also coincides with a negative outlook for the U.S. economy. It appears that investors do not believe that investments from SWFs were sufficient to overturn the negative effects of the credit crunch and a depressed economy.

In his speech at the *American Enterprise Legal Center for the Public Interest* on December 5, 2007, the SEC Chairman Christopher Cox noted that: "*If ordinary investors ... come to believe that they are at an information disadvantage when they compete head-to-head in markets with governments, confidence ... could collapse...*" The negative stock price performance following investments by SWFs would seem to support the Chairman's observation.

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<sup>1</sup> T. Loughran and J. Ritter, "Why Has IPO Underpricing Changed Over Time," *Financial Management*, Vol. 33, pp. 5-37, (2004).

<sup>2</sup> *Wall Street Journal*, July 10, 2008, p. C4.

**Table 14 Short- to Medium-term performance of targets following investment by Sovereign Wealth Fund**

<b>Panel A: Investments in publicly-listed firms</b>													
<i>Date</i>	<i>Target</i>	<i>Acquirer</i>	<i>Mon1</i>	<i>Mon2</i>	<i>Mon3</i>	<i>Mon4</i>	<i>Mon5</i>	<i>Mon6</i>	<i>Mon7</i>	<i>Mon8</i>	<i>Mon9</i>	<i>Mon10</i>	<i>Mon11</i>
25-Jul-07	Fortress Inv Group LLC	Qatar Investment Authority	-7.61	22.96	3.40	-17.39	-13.26	-5.05	-5.39	-10.58	18.87	-1.81	-12.62
22-Aug-07	MGM Mirage	Dubai World	6.51	2.43	-5.58	-2.87	-13.45	-15.31	-4.58	-12.97	-3.79	-31.13	
20-Sep-07	Nasdaq Stock Market Inc.	Borse Dubai	23.94	-7.15	14.14	-6.51	-10.29	-6.87	-5.72	-3.90	-24.21		
23-Oct-07	Bear Stearns Co.s Inc.	CITIC Securities Co. Ltd	-12.23	-11.48	2.00	-10.92	-86.86	2.29	-13.42				
16-Nov-07	Advanced Micro Dev Inc.	Mubadala Development Co.	-23.16	1.20	-5.01	-18.31	1.19	15.44	-15.26				
26-Nov-07	Citigroup Inc.	Abu Dhabi Inv. Authority	-11.60	-3.20	-15.82	-9.65	17.97	-12.26	-23.44				
19-Dec-07	Morgan Stanley	China Investment Corp.	-6.55	-14.64	8.50	6.95	-8.99	-18.45					
24-Dec-07	Merrill Lynch & Co. Inc.	Temasek Holdings (Pte) Ltd	4.98	-11.47	-17.80	22.32	-11.25	-27.80					
15-Jan-08	Merrill Lynch & Co. Inc.	Kuwait Investment Authority	-11.47	-17.80	22.32	-11.25	-27.80						
15-Jan-08	Merrill Lynch & Co. Inc.	Korea Investment Corporation	-11.47	-17.80	22.32	-11.25	-27.80						
15-Jan-08	Citigroup Inc.	Kuwait Investment Authority	-15.82	-9.65	17.97	-12.26	-23.44						
15-Jan-08	Citigroup Inc.	Government Inv. Corp.	-15.82	-9.65	17.97	-12.26	-23.44						
		<i>Sample Avg Month Ret</i>	-6.69	-6.35	5.37	-6.95	-18.95	-8.50	-11.30	-9.15	-3.04	-16.47	-12.62
		<i>Sample Mean Buy Hold Ret</i>	-6.69	-12.62	-7.93	-14.33	-30.57	-36.47	-43.65	-48.80	-50.36	-58.54	-63.77
		<i>SP500 Avg. Month Return</i>	-1.90	-2.06	-0.85	-0.44	-1.66	-2.56	-2.57	1.74	-0.92	-3.76	-8.60
		<i>SP500 Mean Buy Hold Ret</i>	-1.90	-3.92	-4.74	-5.16	-6.73	-9.12	-11.46	-9.92	-10.75	-14.11	-21.49
<b>Panel B: Investments in Initial Public Offerings</b>													
<i>Date</i>	<i>Target</i>	<i>Acquirer</i>	<i>Mon1</i>	<i>Mon2</i>	<i>Mon3</i>	<i>Mon4</i>	<i>Mon5</i>	<i>Mon6</i>	<i>Mon7</i>	<i>Mon8</i>	<i>Mon9</i>	<i>Mon10</i>	<i>Mon11</i>
22-Jun-07	Blackstone Group LLC	China State Investment Corp.	-17.95	-3.67	8.45	1.38	-12.23	0.56	-17.08	-10.05	-1.94	17.53	5.99
29-Oct-07	Och-Ziff Cap Mgmt Grp LLC	Dubai International Capital	6.60	-16.16	5.01	-9.24	-7.56	6.78	-7.90				
7-Apr-08	Visa Inc.	Kuwait Investment Authority	33.82	3.49	-5.85								
		<i>Sample Avg Month Ret</i>	7.49	-5.45	2.54	-3.93	-9.89	3.67	-12.49	-10.05	-1.94	17.53	5.99
		<i>Sample Mean Buy Hold Ret</i>	7.49	1.63	4.21	0.11	-9.79	-6.48	-18.16	-26.38	-27.81	-15.15	-10.07

## **VI. THE GOVERNANCE STRUCTURE FOR SWFs IN THE U.S.**

Given that SWFs are government-owned, their political risks cannot be discounted. However, the U.S. has no interest in turning them away. The U.S. Treasury acknowledges that SWFs have helped to stabilize financial companies reeling from the subprime mortgage debacle.<sup>1</sup> In this section, we consider how existing measures can lessen some of the concerns associated with SWFs. First, the U.S. President has the authority to block any M&A deal that represents a threat to national security under the “Exon-Florio Amendment.” Second, the Amendment also establishes the U.S. Committee on Foreign Investment, which advises the President to block any foreign investment that poses a threat to national security. The presence of this Committee served as a threat to China National Offshore Oil Corporation’s attempt to acquire Unocal.<sup>2</sup> The bid had to be aborted because of its political ramifications. Third, the U.S. Department of Treasury is working with SWFs to formulate governance-principles including: (i) SWF investments should be commercially-motivated, (ii) SWFs should disclose purpose and objectives, (iii) SWFs should install governance structures, internal controls, and risk management systems, (iv) SWFs should compete fairly with the private sector, and (v) SWFs should comply with host-country regulatory and disclosure requirements.<sup>3</sup>

Some researchers argue that the World Trade Organization (WTO) and the International Monetary Fund (IMF) can work together in monitoring SWFs.<sup>4</sup> Others suggest that a vote suspension for SWF equity investments will allay political fears.<sup>5</sup> At the international level, the IMF is taking a lead role in identifying best practices for SWFs in areas like governance, transparency, and accountability (see Badian and Harrington).<sup>6</sup> Establishing an IMF-led code of best corporate governance practices will offer an international “baseline” of responsible SWF managerial practices; yet it will be voluntary in nature.

## **VII. THE OUTLOOK FOR SWFs**

The primary driving force behind the growth in SWFs is the increase in commodity prices, in particular oil. As Figure 10 demonstrates, high oil prices have given oil-exporting countries (also referred to as the Petro Power) new financial heft.<sup>7</sup> Hence, SWFs are primed to promote the international flow of capital.

Lately, the Petro Power has been targeting U.S. firms, especially big ones.<sup>8</sup> It is possible that they want to invest in markets that rate highly on corporate

governance, shareholder rights, and financial regulations, and will therefore continue to show a preference for big U.S. corporations.



**Figure 10** *The Wealth Power of Oil-producing Nations*

Source: Gerald F. Seib, “Pump-Price Shock Blurs National Security Issue,” *The Wall Street Journal*, July 8, 2008, p. A2. Reproduced with permission from Gerald F. Seib. [Insert Figure 3 here]

La Porta *et al.* show how investors prefer markets that provide better protection for their rights.<sup>9</sup> Institutional investors around the world prefer to invest in stocks of large firms (to mitigate concerns about liquidity and transaction costs) that are located in markets with high disclosure.<sup>10</sup> In particular, non-U.S. institutional investors prefer to invest in stocks that comprise the MSCI World Index (a leading index used in international asset management). Such stocks have worldwide recognition and are followed by many analysts. Furthermore, foreign institutions prefer non-dividend paying stocks perhaps because of tax withholding concerns,<sup>11</sup> and Warnock and Cai find that foreign institutional investors prefer U.S. firms with global operations.<sup>12</sup>

Using the Ferreira and Matos classification of institutional owners, we classify SWFs as “Grey Institutional” owners, alongside bank trusts, insurance companies, pension funds and endowments. Grey Institutional owners tend to be passive (unlike independent institutional owners that include mutual fund managers

and investment advisers) and are less likely to react when management actions are not necessarily maximizing shareholders' wealth.<sup>13</sup> We also note that some SWFs are investing to gain access to new skills and technology. For example, the Dubai Group invested in NASDAQ, partly so that NASDAQ could take a stake in the Dubai exchange, and enable the latter to use the NASDAQ brand and the OMX trading technology.<sup>14</sup>

### VIII. CONCLUSION

Since the summer of 2007, Middle East and Asian SWFs have received heightened media attention and public policy scrutiny in the U.S., since they have been involved in the purchase of minority equity positions in major U.S. public corporations. These concerns arise because of a perceived lack of transparency of SWF operations and their corporate governance structures, and the fear that a rival nation could use SWF capital to acquire strategic corporate assets and turn them into geo-political "weapons" against the host country. However, the controversial issues of SWF transparency and corporate governance are being actively addressed by the U.S. government and international economic and finance organizations.

In this paper, we argue that SWFs can supply funds at a lower required rate-of-return compared to non-government-owned funds. This, in turn, increases the net worth of the projects for which the investments were sought. Moreover, recent experience in the U.S. suggests that SWFs can mitigate the adverse effects of a liquidity crisis. While depressed security prices during a liquidity crisis afford SWFs an opportunity to invest cheaply, they adopt a prudent approach by investing in minority stakes and/or preferred stocks and/or fixed income convertible securities. On a larger scale, SWFs facilitate the global allocation of capital from countries with excess capital to firms that need the capital.

We also focus on two empirical questions of research interest. First, how does the market react to announcements of SWF investment in U.S. companies? Second, what is the short- to medium-term performance of these companies post-SWF investment? We run an event study parameter approach whereby the market model is augmented by a dummy variable representing the announcement to answer the first question, and we calculate short- to medium-term buy-and-hold returns to answer the second question. The statistical results show that the market reaction is statistically insignificant in 11 out of 12 cases during an event window that includes the day prior to, the day, and the day following the announcement of a

SWF investment. We also find that in the eleven months following an SWF investment, the target's stock price declines by 63.77 percent on average, and underperforms both the *S&P500* (-21.49 percent) and the *Dow Jones Financial Services Index Fund* (-42.85 percent) over the corresponding period. Therefore, SWF investments did not halt the downturn in the target financial firm's stock price caused by the U.S. liquidity crisis in 2007-2008.

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<sup>1</sup> *Wall Street Journal*, June 06, 2008.

<sup>2</sup> R. Gilson and C. Milhaupt, "Sovereign Wealth Funds and Corporate Governance: A Minimalist Response to the New Merchantilism," *Stanford Law and Economics Olin Working Paper*, No. 355, (March 2008).

<sup>3</sup> U.S. Department of the Treasury, "Treasury Reaches Agreement on Principles for Sovereign Wealth Fund Investment with Singapore and Abu Dhabi (HP-881)," *Press Release*, Washington D.C. (March 20, 2008).

<sup>4</sup> A. Mattoo and A. Subramanian, "Currency Undervaluation and Sovereign Wealth Funds: A New Role for the World Trade Organization," Working Paper, *The Peterson Institute for International Economics Working Paper* (2008).

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# PRINT ADVERTISING IN THE US AND HONG KONG: A COMPARATIVE ANALYSIS

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***Abstract:** Given the static condition of the global economy marketers are cutting advertising budgets commensurate with dismal sales. It is a longstanding belief that utilizing a standardized advertising approach not only controls good ideas and provides for a consistent image but it also has the benefit of controlling expenses through economies of scale. With this in mind, the purpose of the study was to determine the degree of standardization or lack thereof in advertising strategies in the cosmetics and fragrances advertising industries in the United States and Hong Kong. The findings of this study suggest that there is a high level of standardization in the advertising for perfumes because Hong Kong belonged to the British for a long time and individuals' needs and desires for love and acceptance are the same irrespective of geography. On the other hand only a moderate form of standardization was noted in the advertising for cosmetics. This may be attributed to the fact that different beauty concepts are held among different regions. Implications of the findings are also noted.*

***Keywords:** print advertising, standardization, glocalization, cosmetics and fragrance industry*

***JEL Codes:** M 30, M 37*

## 1. INTRODUCTION

With aging baby boomers desire to forever maintaining their youthfulness and good looks, it is no wonder that the U.S. is the largest market in the world for

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cosmetics and France is the biggest exporter (Kumar, 2005). However, in recent years, growth in this industry has shifted from the Western hemisphere to developing regions in South America, Eastern Europe, and Asia (Kumar, 2005). For example, China reported a 10.4 percent growth in this product category during the past five years (Kumar, 2005). Overall, the cosmetic and fragrance industry have performed well in recent years with average growth of almost five percent across the industry irrespective of the economic crisis experienced around the world over the past few years (Kumar, 2005).

As mentioned previously, one of the trends fueling this growth is an aging population not just in the U.S. but worldwide. Batini, Callen, and Mckibbin (2006) state that the world's population will continue to age and that there will be an increased number of living elderly people around the world. Although the pace and timing of aging varies widely between countries, the median age of the world population is expected to increase by 10 years between 2000 and 2050 to a record of 37 years (Batini, Callen, & Mckibbin, 2006). Furthermore, according to the U.S. Census Bureau (2004), the global population in 2002 for age groups 45 to 49, 50 to 54, 55 to 59 and 60 to 64 is expected to more than double for each of the age categories (Table 15).

**Table 15** *Population Breakdown by Age*

	<u>45-49</u>	<u>50-54</u>	<u>55-59</u>	<u>60-64</u>
2002	360 Mil	280 Mil	230 Mil	200 Mil
2050	560 Mil	540 Mil	510 Mil	495 Mil

Source: U.S. Census Bureau, 2004

Sherwood (2007) states that older individuals are in their peak-earning years, and have the money to pay for anti-aging products. Compared to the world sales of \$11.3 billion for anti-aging creams and skin care in 2007, the sales forecast for 2010 is expected to be at \$15.8 billion (Jeffries, 2007); hence, one of the highest-growth subcategories in the beauty industry (Thau, 2006). Given the tremendous demand for anti-aging products, the cosmetics industry is introducing numerous line extensions of well known brands to meet the needs of this growing market ("Growing potential in over 65 niche," 2007).

Further, marketers are introducing new strategies to capture this market (Jeffries, 2007). Celebrities in their 40's such as Sharon Stone, 50's-Christine Brinkley and 60's-Janes Fonda and Diana Keaton are being used as spokespersons for various cosmetic campaigns such as Christian Dior's Capture Totale, Cover

Girl's Advanced Radiance line and Loreal's Age Re-Perfect line (O'Loughlin, 2006; Tannen, 2006; Jeffries, 2007; "Growing potential in over 65 niche," 2007).

However, in fragrances, this over dependence on celebrities doesn't work as well. According to Busch (2003), when advertising fragrances there is a direct link between image and product that is leveraged to drive sales heavily, thus achieving a holistic multi-sensorial experience for consumers. So much so, Busch (2003) introduced a Multisensual Interaction Model that examined emotions and thoughts to improve marketing efforts in this product category.

In the Far East, specifically Hong Kong, cosmetic and toiletries sales increased four percent and reached \$1,107 million in 2006 (Euromonitor International, 2007). Further, color cosmetics sales increased five percent reaching \$112 million; and skincare sales increased four percent to \$509 million in the same year (Euromonitor International, 2007). Finally, fragrance sales increased three percent in 2006 reaching \$83 million with continued growth expected in years to come (Euromonitor International, 2007). Given the growing population and increased global travel, cosmetic sales will continue to grow as well (Australian Government, 2006).

But, unlike their Chinese neighbors, those living in Hong Kong are far more cosmopolitan and willing to try new products (Australian Government, 2006). Hui (2006) stated that after the transfer of power, the improvement in the economy and the job market had led to high consumer confidence and a strong reason for continuing to buy. Moreover, like many countries around the world, females in their 40's that are established in their professional careers, desire to buy branded cosmetics and fragrances that continue to drive sales in this industry ("The World Fact Book: Hong Kong," 2007).

Yet, individuals in the U.S. with sufficient discretionary incomes are the ones that are spending the most money on cosmetics (Feedback Research Services, 2004). According to Euromonitor International (2007), the sales of cosmetics and toiletries in the United States increased three percent reaching \$50,446 million in 2006; color cosmetics had total sales of \$8,601 million in 2006, a two percent increase. As well, fragrance sales reached \$6,126 million in 2006, an increase of two percent (Euromonitor International, 2007).

Notwithstanding, the area with the largest growth has been skincare, given the aging population push to stay young. This spurred skincare companies to use technology to slow down the aging process while charging more for products

(“Technology, youth lift skin care sales,” 2005). The skincare industry increased three percent with revenues reaching almost eight million dollars in 2006 in U.S. (Euromonitor International, 2007).

An instrumental part of driving sales in fragrances, skincare and cosmetics is advertising. In the U.S. one strategy has been to use real women or older looking models in ads (Rao, 2005). Baby boomer women have complained that they cannot relate to young 20’ models shown in ads (Rao, 2005); hence, ads lacked believability. Following the glut of reality shows, as of late, real people have been deemed more credible (Champagne, 2007).

In fact, Dove’s campaign used everyday women in promoting their line of skincare products and most recently, older women in introducing their Proage line (Westphal, 2005). This was a result of a study that found women tended to agree that the media and advertising were driving unrealistic beauty standards (Westphal, 2005). Further, advertisements from drug manufacturers have been using older models, but only lately has the cosmetic industry followed suit.

Brand manufacturers like Dove and CoverGirl have employed real women to introduce their Queen Collection designed for women of color (Bittar, 2007). Similarly, Markwins Corporation, makers of Wet n Wild launched a search through Seventeen and MySpace.com for a young woman to be their spokesperson for their Fresh Face skincare line (“Wet n Wild asks are you the next fresh face,” 2006). Bottom line, advertising plays a significant role in educating consumers regarding products and serves to communicate benefits of a brand, an integral part of why consumers buy (Norton, 1994).

How was the advertising industry in Hong Kong affected after the return of Hong Kong to China? The facts show that after the takeover, the Hong Kong advertising industry was affected but not as expected (Ha, 1998). Unlike other industries, the cosmetics industry did not change their practices after the takeover (Ha, 1998). In fact, since the takeover, advertising practices became more westernized supporting ideals and manners that are incongruent with the Chinese way of life (Ha, 1998).

Hence, given the above, the purpose of the study was to extend the research in cross-cultural advertising by investigating the similarities and differences in cosmetic and fragrance advertising in Hong Kong and the United States. Specifically, the objectives were to:

- (1) identify the brands of cosmetics and fragrances most prevalently advertised in Hong Kong and the United States, and,
- (2) Determine the extent of standardization or adaptation in cosmetic and fragrance advertising in Hong Kong and U.S. magazines.

## 2. RELEVANT LITERATURE

Advertising helps a company to communicate its products' features and benefits to markets through mass media (Belch, 2004). Different advertising appeals build a solid brand image of a company, so that audiences can differentiate a company's product from other competitors and generate sales (Belch, 2004). When multinational companies expand their products to foreign countries, they have to consider which kind of advertising methods they should use to best reach their chosen target markets (Madhu, 1995). There are three different possible approaches: 1) standardization, 2) adaptation, and 3) glocalization to communicate messages in foreign markets (Madhu, 1995).

### *Standardization*

Wei & Jiang (2005) state that standardized advertising messages have the same themes, positioning and illustrations for different countries regardless of local beliefs, social, legal, and religious factors except for translations of the copy. There are several advantages to standardization including economies of scale, a uniformed brand image (Melewar & Vemmervik, 2004), control over positioning (Shoham, 1995), budget conservation (Tai, 1997), consistent message, and minimal effort by subsidiaries (Kirpalani, Laroche, & Darmon, 1988).

Factors that affect whether a company would standardize their advertising messages or not can be the type of product (Melewar & Vemmervik, 2004), customer similarity (Okazaki, Taylor, & Zou, 2006), market similarity (Duncan & Ramaprasad, 1995), global orientation (Zou & Cavusgil, 2002), the ability to implement a global advertising campaign across markets (Kitchen & Schultz, 1999; Okazaki, Taylor, & Zou, 2006), level of control (Laroche, Kirpalani, Pons, & Zhou, 2001; Okazaki, Taylor & Zou, 2006) and size of the firm (Samiee, Jeong, Pae, & Tai, 2003).

Regarding product related factors (Melewar & Vemmervik, 2004) industrial and commercial goods have the highest level of standardization possibilities because the buying process is similar in organizations (Boddewyn, Soehl, &

Picard, 1986; Melewar & Vemmervik, 2004). However, consumer goods have the lowest level of standardization where buying is affected more by culture and emotional factors, and where adaptation seems a better strategy (Cavusgil, Zou, & Naidu, 1993; Melewar & Vemmervik, 2004).

Customer similarity means consumers in different markets have similar perspectives, values, buying habits, socializing styles and hobbies (Okazaki, Taylor, & Zou, 2006). When customers have similar lifestyles in different countries, it is natural to expect that they may accept similar advertising messages and therefore, standardized advertising would be favored in these situations (Okazaki, Taylor, & Zou, 2006).

Market similarity means countries served by the multinational corporation have similar economic development, per capita income, market infrastructure as well as media infrastructure (Duncan & Ramaprasad, 1995). Standardized advertising is best under this condition of market similarity (Duncan & Ramaprasad, 1995).

A global orientation suggests that a company's operations be applied globally instead of different countries having different systems (Zou & Cavusgil, 2002). When firms choose a global orientation, they require their subsidiaries to use a single advertising message around the globe, and hence, standardized or prototype advertising is preferred (Okazaki, Taylor, & Zou, 2006).

A firm's ability to implement a global advertising campaign across markets means the ability to convey its company and product information through different channels (Okazaki, Taylor, & Zou, 2006). Internet, video conferencing, international distribution of television shows and movies are the most commonly used channels to send a message in large markets (Kitchen & Schultz, 1999). When companies such as Proctor and Gamble sell their products around the world, it is likely that the company will engage in a form of standardized messages, which is patterned advertising (Gould, Lerman, & Grein, 1999).

Level of control refers pertains to the parent firms desire to dictate the advertising strategy to its subsidiaries, and promote prototype advertising strategy as opposed to other methods of delivering an advertising campaign (Laroche, Kirpalani, Pons, & Zhou, 2001). When advertising is standardized, parent firms can be assured that advertising goals are attained and that there is control over good ideas (Okazaki, Taylor, & Zou, 2006). However, if subsidiaries can create their

own advertising, subsidiaries may not accept corporate suggestions, which may lead to friction and hinder collaboration (Okazaki, Taylor, & Zou, 2006).

Samiee, Jeong, Pae, and Tai (2003) note that size of the firm can affect the use of standardized advertisements by a company. Multinational firms with sales exceeding \$500 million often prefer to have wholly owned subsidiaries and centralized decision making when developing a global advertising campaign (Kwon & Konopa, 1993; Okazaki, Taylor, & Zou, 2006).

### ***Adaptation***

Adaptation occurs when a company alters an advertisement to suit various markets and allows for adjustments to the creative strategy, positioning, and execution (Wei & Jiang, 2005). As opposed to standardization, adaptation is an individualized strategy for each country (Mueller, 1996).

Adaptation is preferred because different countries have different beliefs, lifestyles, economic situations, language, consumption patterns and preferences from food to clothing (Wang, 1996; Cutler & Javalgi, 1992; Tai, 1997; Kanso & Nelson, 2002; Samiee, Jeong, Pae, & Tai, 2003; Wei & Jiang, 2005). Other factors affecting company's use of adaptative advertising include whether the product can be used globally, competition in that country, company control over subsidiaries, media channels to promote the brand, and the legal constraints over advertising (Harvey, 1993). Adaptation works when education level and perceptions of the company differ (Hill & James, 1990; Samiee, Jeong, Pae, & Tai, 2003).

Adaptation advocates stress that different cultures exist in different countries, so standardized advertising will not work (Ricks, Arpan, & Fu, 1974). Many American and non-American companies have produced major marketing blunders the result of their not understanding the marketplace. A classic example for instance is the attempt of GM to sell their NOVA in Spanish speaking countries when NOVA means No go (Onkvisit & Shaw, 1999).

Since advertising is a form of communication, it is difficult to standardize (Melewar & Vemmervik, 2004). Adaptation may take the form of creative execution, media mix and scheduling (Melewar & Vemmervik, 2004). For example, when marketing in Asia the choice of a dialect to use, the benefits of a product to tout, and the best medium to use, are all culturally defined (Boddewyn, Soehl, & Picard, 1986; Hite & Fraser, 1990). While multinational brands such as Georgio Armani and Chanel need little adaptation, new brands in foreign markets

need far more adaptation (Pae, Samiee, & Tai, 2002) to achieve brand loyalty (Pae, Samiee, & Tai, 2002).

Although the message is different, the positioning of the brand is appropriate for the market and reflective of corporate desires for the brand (Shoham, 1995). However, if the product or service is adaptive, pricing variations can spur the growth of the grey markets (Shoham, 1995). Understanding the local culture, the language and the use of slang allows marketers to communicate messages that reflect the target market's lives and desires (Melewar & Vemmervik, 2004), thus, increasing brand loyalty (Hite & Fraser, 1990).

Although adaptation recognizes cultural differences, some of the problems relate to a higher propensity to send the wrong message, higher costs, and a lack of control of the brand image (Melewar & Vemmervik, 2004). Adaptation requires a study of the market place and may involve more than just the advertising strategy and creative execution but product packaging, price and other components of the marketing mix as well.

### ***Glocalization***

While standardization and adaptation sit at each end of the advertising continuum, Glocalization sits at the middle (Onkvisit & Shaw, 1990). It is a matter of degree rather than being literally in the middle (Onkvisit & Shaw, 1990).

According to Link (1988) at one end of the glocalization continuum are companies that allow their subsidiaries autonomy for the daily operations (Link, 1988) while on the other are corporations that control the subsidiaries' every move (Link, 1988). Companies situated between the two extremes can market their advertisement globally with adjustments made to meet regional differences (Link, 1988).

Coined by Featherstone, Lash, and Robertson (1995), Glocalization is a version of standardization and localization working together to communicate advertising messages to their target markets. Glocalization involves a creative theme given by the parent firm with execution and scheduling held by the subsidiary firm to suit different target markets (Featherstone, Lash, & Robertson, 1995). Multinational corporations usually apply a glocal strategy in several nations at once (Wei & Jiang, 2005).

The creative strategy is a guide to give subsidiaries direction regarding the advertising message (Frazer, 1983; Wei & Jiang, 2005). The major components of a creative strategy are the theme, positioning, and target market (Mueller, 1996).

On the other hand, execution is a method used to express the theme and position such as slice of life (Mueller, 1996). Further, execution includes the picture selection, size, color, layout, headline, and use of copy (Whitelock & Chung, 1989; Wei & Jiang, 2005). In general, advertising strategy focuses on “what is said” while execution concentrates on “how it is said” in an advertisement (Mueller, 1996, p.150).

Tai and Wong (1998) note that glocalization allows the branch offices to have authority to decide tactics, such as size, color, and general layout, rather than receiving home office commands, hence, giving subsidiaries a sense of empowerment (Tai & Wong, 1998). However, because local offices can decide the execution for their countries’ advertisements, they may become detached from home office’ policies and corporate objectives (Tai & Wong, 1998).

Glocalization can involve two types of standardization: One is prototype standardization and the other is pattern standardization (Peebles, Ryans, & Vernon, 1977; Kalso & Nelson, 2002). Prototype standardization has the potential for failure since the home office creates the theme and the branch office executes the advertisement (Peebles, Ryans, & Vernon, 1977; Kalso & Nelson, 2002). Only minor changes are made such as language (Peebles, Ryans, & Vernon, 1977; Kalso & Nelson, 2002). Pattern standardization, on the other hand is more flexible and is being used more extensively. It gives the home office the ability to decide the target market, positioning of the brand, and the primary theme (Peebles, Ryans, & Vernon, 1977; Kalso & Nelson, 2002). However, the branch office can decide the creative execution, media mix and scheduling (Peebles, Ryans, & Vernon, 1977; Kalso & Nelson, 2002).

Wei and Jiang (2005) show how multinational company like Nokia uses glocalization in an international campaign. The ads had the same creative components but were executed differently depending on the market (Wei & Jiang, 2005). Both U.S. and China used the same theme “Connecting people” but the Chinese execution contained more graphics while the United States contained more copy to communicate the benefits of the product (Wei & Jiang, 2005, p.849). Due to the Chinese being culturally different from the U.S., these changes were made to communicate effectively with the target markets (Wei & Jiang, 2005).

In conclusion, standardization proponents believe that even when people are different, they have the same underlying physiological and psychological needs especially nowadays given the influence of technology leading to a convergence of

media activity, living circumstances, social mores and advertising. Adaptation proponents assert that consumers vary in different regions, such as differences in culture, taste, media infrastructure, and economic situation, therefore, advertising differs. Glocalization refers to marketing products for a global market but customizing products to suit local cultures and involving a given creative strategy but with each branch office executing the strategy according to its environment.

### 3. METHODOLOGY

#### ***Sample and data collection***

*Cosmopolitan* was selected for content analysis since it is published in the United States and Hong Kong. Further, *Cosmopolitan* is the largest-selling young women's magazine in the world ("Cosmopolitan," 2007). Circulation figures for *Cosmopolitan* U.S. edition are 2,900,000 ("Cosmopolitan," 2006). Circulation figures for *Cosmopolitan's* Hong Kong edition is 60,000, that is higher than other magazines including *Marie Clarie* and *COSMO girl* with circulation figures of 22,044 and 46,000 respectively ("Media Coverage," 2006).

#### ***Instrument***

The instrument used in this study followed Seitz and Johar (1993) guidelines, the modified model developed originally by Whitelock and Chung (1989) for sorting out differences when comparing advertisements. Mueller (1991) stated content analysis allowed a comparison of two advertisements to determine the degree of similarity/difference between them.

Six factors were examined including picture, color, size, general layout, slogan, and copy (Whitelock & Chung, 1989). A point was given for differences of each factor (Whitelock & Chung, 1989). For example, when an advertisement was totally adapted whereby the picture was entirely different from the other ad, the maximum points could be 10 (Whitelock & Chung, 1989). For differences in the general layout, color, and size, one point would be given; however, the differences of slogan and copy could score up to three points (Whitelock & Chung, 1989). For example, if the slogan or copy in advertisements had different meanings and were written in the language of the country, three points would be assigned (Whitelock & Chung, 1989). A higher score meant that the slogan or copy was less standardized (Seitz & Handojo, 1997).

The number 10 would be used to subtract the total points for each comparison to determine the degree of standardization (Seitz & Handojo, 1997). A high score like 10 meant the advertisements were completely standardized while a low score like zero suggested total adaptation (Seitz & Handojo, 1997).

#### 4. RESULTS

A total of 480 advertisements were collected from *Cosmopolitan* magazines for content analysis. Out of the 480 advertisements, 312 were collected from the Hong Kong editions while 168 were collected from their American counterparts. The samples were collected from the magazines published between May 2006 and October 2006. Analyzing the frequency that the advertisements appeared in the magazines, the top ten brands and products were chosen for comparison. For perfumes, Lancome “Hypnose”, DKNY “Be delicious”, and Calvin Klein “CK One Summer” were evaluated and for cosmetics, Revlon’s foundation, Chanel’s lipstick and Clinique’s mascara were analyzed.

##### *Brand Analysis*

A total of 168 cosmetics advertisements from the American editions initially yielded a total of 45 brand names. These 45 brands were then narrowed down to the ten most advertised brands based on the frequency at which the advertisements appeared (Table 16). This same procedure was used for the Hong Kong advertisements that resulted in a final list of the 10 most advertised brands (Table 17).

**Table 16** *Top Ten Cosmetics Brands Advertised in Cosmopolitan in American Editions*

Ranking	Brand Headquarters	Brand Name	Frequency	Percent
1	USA	NEUTROGENA	18	21%
2	USA	OLAY	14	17%
3	USA	NOXZEMA	10	12%
4	FRANCE	LOREAL	7	8%
5	USA	MAYBELLINE	7	8%
6	USA	COVERGIRL	6	7%
7	USA	MAXFACTOR	6	7%
8	USA	RIMMEL	6	7%
9	USA	REVLON	6	7%
10	USA	AVVENO	5	6%
<b>TOTAL</b>			<b>85</b>	<b>100%</b>

Table 16 and Table 17 show that cosmetic brands advertised in the U.S. and Hong Kong were quite different regarding their origin. The brands advertised in the U.S., such as Neutrogena, Olay, and Noxzema, were all western brands, primarily American (90%) and French (10%) (Table 16)

Meanwhile, brands advertised in Hong Kong editions were dominated by three countries including Japan, USA and France (Table 17). Japanese brands included Shiseido, Fancl and IPSA; American brands included Dior, Clinique and Estee Lauder; and, French brands included Lancome, Chanel and Guerlain. Laneige, a South Korean brand appeared seven times, far less than Japanese or American brands.

**Table 17** *Top Ten Cosmetics Brand Advertised in Cosmopolitan in Hong Kong Editions*

Ranking	Brand Headquarters	Brand Name	Frequency	Percent
1	JAPAN	SHISEIDO	12	13%
2	USA	DIOR	11	13%
3	USA	CLINIQUE	10	11%
4	JAPAN	FANCL	10	11%
5	FRANCE	LANCOME	9	10%
6	JAPAN	IPSA	8	9%
7	USA	ESTEE LAUDER	8	9%
8	FRANCE	CHANEL	8	9%
9	SOUTH KOREA	LANEIGE	7	8%
10	FRANCE	GUERLAIN	6	7%
		<b>TOTAL</b>	<b>89</b>	<b>100%</b>

### **Product Type Analysis**

Fragrances were advertised most often in Hong Kong editions, occupying 16% of ad space (Table 18). The second most frequently advertised product type in Hong Kong editions was skin whitening products with 13% of ad space. On the other hand, cleansers were the most frequently advertised product type in U.S. editions with 25% of the advertising space. The second most frequently advertised product type in U.S. editions was fragrances with 17% of the advertising space.

**Table 18** *A Classification of Product Types Advertised in Hong Kong and the United States Editions of Cosmopolitan*

Ranking	Hong Kong	Freq.	Percent	American	Freq.	Percent
1	FRAGRANCE	49	16%	CLEANSER	42	25%
2	WHITENING	41	13%	FRAGRANCE	28	17%
3	WRINKLE	38	12%	LIPSTICK	21	13%
4	LIPSTICK	30	10%	FOUNDATION	21	13%

Ranking	Hong Kong	Freq.	Percent	American	Freq.	Percent
5	FOUNDATION	26	8%	MASCURA	14	8%
6	CLEANSER	26	8%	MOISTURIZER	13	8%
7	EYE GEL	18	6%	EYE MAKEUP	12	7%
8	MOISTURIZER	17	5%	SUN BLOCK	11	7%
9	MASK	15	5%	FACE POWDER	3	2%
10	MASCURA	11	4%	LOTION	1	0%
11	SUN BLOCK	11	4%	WRINKLE	1	0%
12	EYE MAKEUP	11	4%	CONCEALER	1	0%
13	LOTION	10	3%			
14	CREAM	9	2%			
	<b>TOTAL</b>	<b>312</b>	<b>100%</b>	<b>TOTAL</b>	<b>168</b>	

### *Standardization versus Adaptation Analysis*

From the ten most prevalently advertised brands in Hong Kong and the U.S., the selection was narrowed further to six of the same brands in both U.S. and Hong Kong editions. This allowed the researchers to analyze the extent of advertising standardization and adaptation between the two countries. The six brands examined were Lancome, DKNY, Calvin Klein, Revlon, Chanel and Clinique, and the products examined were perfumes and cosmetics. For perfumes, Lancome “Hypnose”, DKNY “Be delicious”, and Calvin Klein “CK One Summer” were evaluated and for makeup, Revlon foundation, Chanel lipstick and Clinique mascara were analyzed. Six advertisements from each country were analyzed.

### *Perfumes*

**Lancome.** Lancome Hypnose had a score of 8. Differences were found in the advertisement picture and layout between the two countries ads. The Hong Kong edition revealed the model’s body more than the U.S. one. Specifically, the model’s right arm could be seen in the Hong Kong’s edition while not shown in the U.S. edition. In addition, the layout of the slogan was slightly different. In the Hong Kong edition, the slogan “the new hypnotizing fragrance” was displayed on the right side of the page while in the U.S. edition, the slogan was displayed at the bottom. Also, both countries’ editions were 2 pages. In the Hong Kong edition, the advertisement was a 2 page spread while it was front and back with a scent strip in the U.S. edition.

**DKNY.** DKNY’s Be Delicious had a score of 10, which is indicative of high standardization with no noticeable differences in the advertisements.

**Calvin Klein.** Calvin Klein’s “CK One Summer” had a score of 6. The Hong Kong advertisement was one page while the U.S. advertisement was 2 pages

front and back. The content in the first page of the U.S. advertisement was the same as the one page Hong Kong one. However, the Hong Kong advertisement did not have the content of the second page prevalent in the U.S. edition that showed a skin moisturizer and body wash. Another minor difference was that the U.S. ad had a scent strip while the Hong Kong edition did not.

### *Cosmetics*

**Revlon.** The Revlon foundation advertisements received a score of 5 because there were differences in the pictures and copy. In the U.S. edition, a list of foundation colors were shown on the right side of the advertisement, however, the Hong Kong did not. Moreover, the headline was written in English in the U.S. edition and in Chinese in the Hong Kong edition. Also, the descriptions varied slightly. In the U.S. edition, the headline was “Now so comfortable, you’ll forget you’re wearing it”, while in the Hong Kong edition was “Foundation that can last for a long time, it is so soft that you’ll forget you’re wearing it”. Finally, the copy was slightly different in both advertisements. In the U.S. edition, there were descriptions that did not appear in the Hong Kong advertisement that included “formulated for your skin type” and “20 luxurious, love-to-wear shades”. However, in the Hong Kong edition, there were also descriptions that did not appear in the U.S. ads such as “The product includes herbal essence which moisturizes the skin to get a prefect result”.

### *Chanel.*

Advertisements for Chanel lipstick scored 4. Differences in the advertisements were apparent in the layout, color, size and copy. When comparing the U.S. and Hong Kong editions, the layout of the advertisements varied slightly. In the U.S. edition the product image was placed in the middle of the page while in the Hong Kong edition it was on the right side of the page. Also, the headline “Seduction in just one click” in the U.S. edition was expressed at the top of the advertisement while it was on the left side in the Hong Kong advertisement. Moreover, the color of the lipstick in the U.S. edition was red while the color of the lipstick in Hong Kong advertisement was pink. In addition, the U.S. advertisement was one page as opposed to a two page spread in the Hong Kong edition. Finally, aside from the English headline “Seduction in just one click” that appeared in both ads, the Hong Kong edition contained a sub-headline in Chinese “Shiny and

sparkling lipstick". Also, in the Hong Kong edition, the copy written in Chinese mentioned that there were 22 colors available at HK\$185.

### ***Clinique.***

For Clinique mascara, advertisements that appeared in both countries' editions had a score of 3. Differences in the advertisements were apparent in the picture, slogan and copy. For example, the mascara wand that was used for each country's product differed. In the Hong Kong edition the shape of the comb was S shaped while the comb in the U.S. advertisement was V shaped. Moreover, the slogan "New defining lengths" in both editions was the same; however, it was translated into Chinese in the Hong Kong edition. In addition, there were words that appeared in the Hong Kong advertisement that were not present in the U.S. edition. For example, "This mascara is specifically designed for Asians" and "warm water can remove the makeup". Also, different wording was used in both editions. For example, in the Hong Kong edition, "defining power mascara" was written on the mascara wand while "high definition lashes" was printed in the U.S. edition.

### ***Discussion and Implications***

In determining the cosmetic and fragrance brands most prevalently advertised in editions of *Cosmopolitan*, the results indicated that the top five advertised brands in the United States editions were Neutrogena, Olay, Noxema, Loreal and Maybelline. Their origin of these brands was the United States except for Loreal, which is a French brand. Meanwhile, the top five brands advertised in the Hong Kong editions were Shiseido, Dior, Clinique, Fancl and Lancome. The brands' origins were Japan, the United States and France, which were different from the origins of the top five brands in the U.S. According to Sims (1999) and Koh et al. (1999), people have a tendency to want products from countries they perceive as better and that country is Japan for Hong Kong people. Since Japan and Hong Kong share cultural similarities, they share similar appreciation for cosmetics such as skin whitening products (Koh et al., 1999; Bray, 2002). The idea of light skin comes from "one white covers up three uglinesses" a long held belief in China and Japan (Bray, 2002, p.1). Further, due to cultural similarities, Hong Kong consumers prefer Japanese packaging and consider them appropriate for their needs (Cheong, 2007). Given that consumers have an array of brands and products available at competitive prices, both, Hong Kong and American consumers value

U.S. products (Cheong, 2004). However, when it comes to cosmetics, fragrances, and most importantly, skincare, France has a lot of influence with Americans (Cheong, 2007). French cosmetics are well-known for their quality; hence, Hong Kong consumers as well as Americans share a liking for French cosmetics (Cheong, 2007).

The findings also indicated that fragrances and whitening products were the most frequently advertised product types in Hong Kong, while cleansers and fragrances were the most advertised in U.S. editions. The next most advertised product types in Hong Kong were wrinkle products and lipsticks; on the other hand, the next most advertised product types in U.S. editions were lipstick and foundation.

Wrinkle product advertisements showed a big difference in advertising frequency in Hong Kong magazines versus U.S. ones. The reason why wrinkle product advertising are prevalent is due to Hong Kong's aging population. Like the U.S., 42-46 years old baby boomers who were born between 1958 and 1962, compose a large percentage of the country's population ("Business thinking on golden pond," 2005). Research by Euromonitor International's (2006) showed that the buoyant economy allows Hong Kong upscale working women to purchase premium products that reduce wrinkles; resulting in product category growth of 9.5% in 2005 (Euromonitor International, 2006).

The results from the present analysis suggest that Hong Kong advertisements tended to focus more on skincare while U.S. advertisements tended to focus more on makeup products. These products included whiteners, eye gels, masks and creams that were advertised only in the Hong Kong editions while face powders and concealers were advertised in U.S. ones during this period of the study.

The results from the analyses suggested that U.S. advertisements tended to focus more on image while Hong Kong ones tended to focus more on providing information. The findings were congruent with Sin, So, Yau, and Kwong (2001) who noted that Hong Kong females rated instrumental value rather than aesthetics as the most important product attribute in purchase decisions. This suggests that performance, product quality and value for money should be included in advertising messages rather more so than image and brand name when selling cosmetic products in Hong Kong (Sin, So, Yau, & Kwong, 2001). In the U.S., the magazine is a national medium that covers all 50 states and Puerto Rico (Ha, 1998). There are too many locations and different prices for different states to be

listed in the ad (Ha, 1998). Therefore, U.S. advertisers might place more emphasis on product attributes that can be applicable to different locations across the country (Ha, 1998).

Scent strips were included in U.S. editions of fragrance advertisements but not in the Hong Kong ones. This may be because American firms believe advertising creates awareness and distinguishes themselves from competitors. However, by incorporating promotions such as samples, this strategy may increase sales.

In determining the extent of standardization of cosmetic advertising in Hong Kong and American magazines, findings showed that perfume advertisements were highly standardized with a mean score of 8 while cosmetics were in the middle of standardization and adaptation continuum with a mean score of 4. These findings were consistent with those found by Seitz and Johar (1993) regarding advertising standardization practices for perfumes and cosmetics. Their findings resulted in a score of 7 for perfumes implying a high degree of standardization while cosmetics had a score of 6.25 implying a moderate degree of standardization.

The moderate- to- high standardization of Hong Kong advertisements can also be explained by its Westernized culture (Neelankavil, Mummalaneni, & Sessions, 1995). Hong Kong for many years was under the influence of the British and thus industries grew from a pro-capitalistic environment (Neelankavil, Mummalaneni & Sessions, 1995). Hence, ads would mostly reflect Western ideals (Neelankavil, Mummalaneni, & Sessions, 1995). Further, given its history as a British colony for years, Hong Kong residents are likely to accept Western ideals and products readily (Pae, Samiee, & Tai, 2002).

As pointed out by Domzal and Unger (1987), and shown by Seitz and Johar (1993), standardization is most likely where little copy is necessary as in fragrances that are primarily image ads. Essentially, types of products and services that touch all individuals' needs and desires such as love and acceptance lend themselves to standardized advertising (Seitz & Johar, 1993).

Some say that as a result of the Internet, peoples' needs and desires are homogenized; yet that seems furthest from the truth (Kanso & Kitchen, 2004). Localization is necessary for products such as cosmetics as studied here. Although costs would be higher, a glocalized approach would be better suited to communicate messages since people are not the same around the world (Kanso & Kitchen, 2004). The findings of this study showed cosmetics fell somewhat in the

middle of the advertising continuum where advertisements were localized to meet regional customers' taste. According to So (2004), peoples' needs and desires are different around the world. For example, flawless white skin is admired in many Asian countries where having tanned skin makes American women look especially beautiful in the summer ("Amway makes moves in China," 2004). Skin color is a reflection of social status in Asia whereby light skin implies rich people who don't need to work while darker skin means hard labor often work under the sun (Iy, 2005). Therefore, light skin is favored in Asian countries (Iy, 2005). As a result, Chinese women use whitening creams to avoid dark skin and prevent sun freckles (Foster & Yeh, 2006). Therefore, more advertisements for whitening products are presented in the Hong Kong magazines as opposed to other products. On the whole, differences in culture and beauty concepts do have an effect on the nature of brands and products advertised in printed media in both Hong Kong and the U.S.

Findings from the study suggested several implications. First, findings suggested that cosmetic needs of women in the U.S. and Hong Kong are not homogeneous. Whitening products are frequently advertised in Hong Kong editions while cleaners dominate the U.S. market. Marketers need to understand the needs and desires of their markets and promote the appropriate products. Although Hong Kong residents are aging as in the U.S., few adaptations would be needed to advertise anti-wrinkle products in the market.

Findings showed that standardization of advertisements is mostly found in perfume ads. In the case of perfumes, advertisers might best create and maintain a unified image through a standardized advertising campaign using either Caucasian or Asian models since both are accepted in Hong Kong and in the U.S. Besides maintaining a single image for the brand, standardized advertisements can take advantage of economies of scale. Given such advantages, standardized advertising for perfume is the recommended strategy for this product category.

Findings also showed that glocalization is the prevalent strategy in cosmetic advertising. In the case of cosmetics, advertisers would do best to take pattern standardization approach since the brand may be the same but consumers' needs and preferences are different. Factors that should be considered include different concepts of beauty in different countries that affect consumers' choice of cosmetic purchases. Therefore, when the home and host cultures are different, a more adaptive strategy is feasible. Findings in the present study indicated that the nature of the brands and products in these two countries had differences attributed to

culture. Understanding the nature of brands and products in these two countries can assist marketers and advertisers in developing strategies and programs to attract these markets.

When advertisers have to decide whether to adapt or standardize advertising, they should be concerned about consumers' preferences and culture. Marketers might consider a glocalized strategy that takes all these factors into consideration.

As China's economy is growing stronger, more multinational companies are interested to sell and advertise their products to that market; this study could act as guidelines for advertisers. According to Seitz, Razzouk, Lee, Yang, and Koh (2004), "Hong Kong, China and Taiwan advertising industries were at different levels of the advertising life cycle that Hong Kong was in the maturity stage, Taiwan was in the growth stage, and China was in the introductory stage" (p.240-247). "As China, Hong Kong and Taiwan cultures were similar, U.S. advertisers could use Hong Kong and Taiwanese advertising trends analysis to forecast future China's advertising trend to develop appropriate marketing strategies to reach target customers" (Seitz, Razzouk, Lee, Yang, & Koh, 2004, p.240-247).

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# DIFFERENTIATION OF BURNOUT SYNDROME BY PROFESSION AND JOB: GAZI BURNOUT INVENTORY

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***Abstract:** Defined as the situation individuals undergo in the face of stress, burnout syndrome appears to be a handicap not only conveying the feeling of isolation towards a specific job or profession but diminishing the productivity of individual in profession-related settings as well. This study sets out to develop and design an attitude scale in order to explore the differentiation of burnout of individuals in terms of job and profession concepts. In order to measure professional and job burnout, a trial scale was formed covering 106 statements obtained from 80 students with a job or profession at an MBA program and this scale was administered. Reliability and validity analyses of the Data obtained were performed and as the results of the analyses performed a 14-item professional burnout scale and a 12-item job burnout scale were developed.*

***Keywords:** burnout, measurement, professional burnout, job burnout*

***JEL Codes:** M12, M54*

## 1. INTRODUCTION

The concept of burnout was put forward for the first time by Freudenberger in 1974 (Maslach & Jackson, 1981) and was taken into consideration as a syndrome together with stress in the workplace. Basically defined as the emotional and physical exhaustion, burnout brings about many disadvantages in organizational settings (Budak & Sürgevil, 2005). In other words, burnout syndrome is the syndrome in which individuals develop physical exhaustion,

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chronic exhaustion, feelings of despair and desperation as well as low self-accomplishment and negative feelings and attitudes towards the recipients of the service (Maslach & Jackson,1981; Özdemir et al.,1999; Kuçer,2005; Pines & Keinan,2005; Holmqvist & Jeanneau,2006; Becker, Milad & Klock, 2006; Piko, 2006; Kim, Shin & Umbreit,2007).

Burnout syndrome leads to severe individual and organizational problems. A highly advanced burnout syndrome may give rise to psychosomatic anomalies, problems in family and marriage life, insomnia, alcohol and substance addiction. As for organizational contexts, burnout may result in complications such as late-coming and early-leaving of employees, quitting, having frequent medical reports, and the lack of productive and constructive ideas and criticism in the occupational settings (Sayıl et al.,1997). Burnout arises, in particular, with the feelings of physiologic and emotional exhaustion experienced as a result of failure in coping with stress in occupational contexts requiring intensive communication and interaction with service recipients (Tuğrul & Çelik,2002).

Burnout is assessed as the long-term consequence of stress in a job or profession and very common among professionals working in areas such as teaching, health care, social work or emergency legal services (Gorter, Eijkman & Hoogstraten, 2000; Özdemir et al., 2003; Pines & Keinan,2005). In the studies into burnout, the concepts of job and profession were treated in a similar manner and no difference was taken into regard in the treatment of the concepts and many findings and results stated as job burnout were characterized as professional burnout. Hence, in these studies (Avşaroğlu et al., 2005; Basım & Şeşen, 2006; Cao & Miao, 2006; Cemaloğlu & Şahin,2007;Chou,1993; Frey, 2000; Girgin & Baysal,2005; Glebocka & Lisowska,2007; Gorter et al.,1999; Hayes et al.,2004; Jaracz & Gorna & Konieczna, 2005; Nemes, 2004; Nyklicek & Pop, 2005; Özdemir et al.,1999; Piko, 2006; Richardson & College, 2005; Rupert & Kent,2007;Schoot, Oginska & Estry,2003; Vanheule & Verhaegle, 2005; Yang & Farn, 2005; Vanheule & Verhaeghe, 2005; Zhang, Leiter & Laschinger, 2006) , there is a conceptual confusion in the use of the terms “job” and “profession”, thus leading to misunderstanding.

On the other hand, the profession an individual has and the job he/she performs are two concepts different from each other. Profession is the culmination of knowledge, skill and competence an individual obtained through a series of training. An individual with a profession can hold the title of the profession

throughout his/her life span even if he/she doesn't perform it. On the other hand, job is an activity which people do for pay in order to meet needs and subsistence. The title of a job can be used as long as individuals perform their jobs. Hence, the most distinguishing difference between "profession" and "job" is that profession title can be used throughout life, while title for a job can be used confined to the duration individuals hold their position in their jobs. That's why, in this study, burnout level of employees was examined in two different perspective as "professional burnout" and "job burnout".

To serve this purpose, this study sets out to develop and design an attitude scale in order to put forward differentiation of the burnout level of individuals in "profession" and "job". A scale with 14 items and a scale with 12 items were developed and designed for professional burnout and job burnout, respectively.

## **2. THEORETICAL FRAME**

### **2.1 Differentiation of Profession and Job Concepts**

The concepts of "job" and "profession" are oftentimes confused with each other. Job and profession are concepts different from each other. Profession is the title one earns through training and a formal qualification (Oxford, 1993). Job is a paid position of regular employment (Oxford, 1993), activity and work in order to achieve and reach a result through making efforts (tdk, 2007) or physical and mental work performed for material returns.

Professions originate from the labour division required by social, cultural and economic structure as well as technological advances. Professions are usually pass from one generation to another in underdeveloped societies, as for developing societies, professions are learnt through master-apprentice relation and when it comes to advanced societies professions are obtained through formal education. In contemporary societies, it is regarded as a qualification requiring a diploma (Uçan, 2001).

A person can have the same profession and job at the same time. To illustrate, a person entitled to be a doctor through a formal training can also be performing his/her profession, in which case we call this his/her job and profession title and the job title of this person is the same in this example. On the other hand, a person can have a different profession and job. For instance, a person holding a degree in medicine could be employed as a manager at an establishment.

Since profession is the title earned through a formal training and education period, a person can have a job although he/she doesn't have a profession. Or, a person doesn't have a job but a profession title, for profession title can be used throughout one's life once it is earned.

## **2.2 Job Burnout**

Business life has a competitive nature and hence creates a continual pressure on managers and employees alike to reach the targets set before. Employees are expected to set forth swift, preferable and cost-efficient solutions to business problems. Thus, it could be held that this situation lead to job burnout due to the ever-increasing pressure on the employees and over-stress (Telman & Önen, 2006).

Cherniss (1980) sums experienced burnout in business life as psychological discouragement from job as a reaction to intense stress and dissatisfaction and admits that it is a pressure equal to combination of all the factors that make up the motivational, emotional, attitudinal and behavioral changes as a response to job stress (Avşaroğlu, Deniz & Kahraman, 2005).

Burnout syndrome experienced in the early periods of work life might seem to bring about no troubles at all. However, if experienced in the later periods of the work life, it might lead to severe and long-lasting troubles. Interestingly, factors that help alleviate the effect of the burnout syndrome may at the same time pave the way for burnout syndrome. Among these factors are new job environment, more autonomy, managerial support and attractiveness of the job (Ersoy, Yıldırım & Edirne, 2001).

## **2.3 Professional Burnout**

Professional burnout can be defined as the psychological discouragement and estrangement from a profession or profession title. The feeling of exhaustion in a profession may arise from such motives as the inability to meet the expectations, the unwilling choice of the profession, clash between the requirement of the profession and personal abilities, promising no benefit for future developments and psychological isolation from the profession.

Feeling of exhaustion is influential in adjusting attitude and behavior towards one's profession. Individuals experiencing professional burnout do not do or prefer any jobs, and do nor prefer to make use of the knowledge and skills obtained from profession.

### 3. METHODOLOGY

The objective of this study is to develop and design a scale in order to determine burnout level of the employees in different work groups (doctors, nurses, teachers, police officers, *etc...*) and to set forth the difference between professional burnout and job burnout levels.

The study was completed in four stages. During the first one, data was collected from some 80 students, enrolled in Atılım University Institute of Social Sciences MBA program, who were informed of the topic of the study. The major reason why these students were chosen is that they have a job and a profession as well as their familiarity with the topic of the study. After elucidating the difference between job and profession to the students, students were asked to write down statements on burnout taking the profession and the job they have into account. Items of statements were analyzed systematically and some clues were obtained in a manner that will form the basis of the statements of attitude towards burnout. Then, by means of the clues obtained, 106 pilot statements on attitude towards burnout were picked, 50 of them on professional burnout, 56 on job burnout.

During the second phase of the preparation of the pilot scale, statements of attitude were put in the form of a scale. To do this, 106-item statements of attitude were written one under the other and they were treated with a five-level Likert scale measuring “1 Disagree Strongly”, “2 Disagree Somewhat”, “3 Neutral”, “4 Agree Somewhat”, “5 Agree Strongly”. The pilot scale included affirmative and negative statements and in order to lessen the effect of manipulation and directing, affirmative and negative statement are presented in a mixed order. Besides, expert opinions were taken into account in the preparation of the 106-item preliminary form of the scale.

In the implementation, the third phase, the pilot scale was administered to 1296 people, selected randomly, from different jobs and occupations, among which are nurses, doctors, lawyers, academicians, managers and police officers. 176 people were left out since they had no profession title nor had a job. 1120 people comprised the database of the study.

Then, reliability and validity analyses were performed. Cronbach alpha coefficient, the most suitable one for Likert type scales, was computed. As for validity, no test was performed for content validity and expert opinions taken in the preparation of attitude scales were thought to be adequate and acceptable. As for construct validity, factor analysis was applied.

There are some approaches in the literature towards the minimum number of questionnaire items to be administered in scale construction and design studies. In this study, number of item/number of observation ratio was employed. According to Pedhazur (1997) this is 1:15 and 1:30. That is to say, 15 or 30 observation per item was suggested. The number of questionnaire in this study is within this limit.

In the last part of the study, the scale we called “Gazi Professional Burnout Inventory” and “Gazi Job Burnout Inventory” was administered and we aimed to find out the level of differentiation.

### 3.1 Construction of The Gazi Professional Burnout Inventory

A Cronbach's Alpha test has been performed to measure the reliability of the inventory and the reliability has been found to be 0.814. Factor analyses have been used to determine the scale and Quartimax rotation method has been applied.

The Kaiser-Meyer-Olkin value for sampling adequacy is 0.773. This value indicates that the data used is appropriate for factor analysis. As a result of Bartlett's test, approximate Chi-Square value has been found to be 46980.334 ( $p < 0.000$ ). These results indicate that the size of the sampling, subject to factor analysis, is enough and that the data is appropriate for analysis.

The 50 items in the questionnaire have been evaluated by factor analysis and the factors with eigenvalues higher than 1 have been identified. According to this criterion, 14 factors have been obtained. The eigenvalues, the percentages of variance explained and the percentage of total variance explained of the obtained factors are given in the table below. As is seen in Table 19, the 14 factors obtained account for 79.2% of the total variance. It is clear that this percentage verifies the limitation that factors must account for at least the 2/3 of the total variance.

**Table 19** *The Eigenvalues and Total Variance Explained Percentages of the Factors*

Factor	Total Variance Explained		
	Initial Eigenvalues		
	Total	% of Variance	Cumulative %
1	9,408	18,817	18,817
2	5,583	11,166	29,983
3	3,946	7,891	37,874
4	3,183	6,366	44,240
5	2,629	5,258	49,498
6	2,434	4,868	54,366
7	2,164	4,328	58,694

Factor	Total Variance Explained		
	Initial Eigenvalues		
	Total	% of Variance	Cumulative %
8	2,010	4,020	62,714
9	1,676	3,352	66,066
10	1,623	3,247	69,313
11	1,399	2,799	72,111
12	1,295	2,590	74,701
13	1,199	2,398	77,099
14	1,051	2,102	79,200

For the 14 factors obtained in the analysis, for each factor, the item with the highest factor load has been chosen. The chosen factors are given sequentially in Table 20 according to factor loads.

**Table 20** *Item Factor Loadings for the Gazi Professional Burnout Inventory*

Item Code	Items	Factor Load
GPBI 42	The competition to be promoted in the profession I was trained for is really wearisome.	0,833
GPBI 18	I attend in-service training programs about my profession.	-0,811
GPBI 11	Employers do not appreciate the importance or value of my profession.	0,737
GPBI 02	I regret choosing this profession.	0,748
GPBI 38	It is demotivating me that job opportunities for the profession I was trained for is limited.	0,804
GPBI 27	In my profession, I want to deal with routine tasks only.	0,725
GPBI 10	I never thought of working in the profession I was trained for.	0,729
GPBI 24	It is demotivating me that not enough employment opportunities are available in the profession I was trained for.	-0,805
GPBI 22	My opinions and suggestions about the subjects concerning my profession are not appreciated.	0,782
GPBI 28	I am tired and bored with the too many formal procedures in my profession.	0,841
GPBI 31	The profession I was trained for is a highly desired and admired profession.	0,828
GPBI 30	People who are trained in similar professions can also do the jobs I do.	0,709
GPBI 03	I do not like having a job related with my profession.	0,508
GPBI 17	I like to develop myself professionally.	-0,624

When Table 20 is analyzed, it can be seen that factor loads are higher than 0.500. It can also be seen on the table that the item with the highest eigenvalue is “GPBI42” and it is followed by “GPBI18” and “GPBI11”, respectively.

### 3.2 Construction of the Gazi Job Burnout Inventory

A Cronbach's Alpha test has been performed to measure the reliability of the inventory and the reliability has been found to be 0.972. Factor analyses have been used to determine the scale and Quartimax rotation method has been applied.

The Kaiser-Meyer-Olkin value for sampling adequacy is 0.937. This value indicates that the data used is appropriate for factor analysis. As a result of Bartlett's test, approximate Chi-Square value has been found to be 71653,746 ( $p < 0.000$ ). These results indicate that the size of the sampling, subject to factor analysis, is enough and that the data is appropriate for analysis.

The 56 items in the questionnaire have been evaluated by factor analysis and the factors with eigenvalues higher than 1 have been identified. According to this criterion, 12 factors have been obtained. The eigenvalues, the percentages of variance explained and the percentage of total variance explained of the obtained factors are given in the table below. As is seen in Table, the 12 factors obtained account for 79.6% of the total variance. It is clear that this percentage verifies the limitation that factors must account for at least the 2/3 of the total variance.

**Table 21** *The Eigenvalues and Total Variance Explained Percentages of the Obtained Factors*

Factor	Total Variance Explained		
	Initial Eigenvalues		
	Total	% of Variance	Cumulative %
1	24,001	42,859	42,859
2	3,916	6,994	49,853
3	2,808	5,014	54,867
4	2,282	4,076	58,943
5	1,952	3,485	62,428
6	1,828	3,265	65,693
7	1,604	2,865	68,558
8	1,540	2,750	71,308
9	1,334	2,382	73,690
10	1,181	2,109	75,799
11	1,077	1,924	77,723
12	1,032	1,842	79,565

For the 12 factors obtained in the analysis, for each factor, the item with the highest factor load has been chosen. The chosen factors are given sequentially in Table 22 according to factor loads.

**Table 22** *Item Factor Loadings for the Gazi Job Burnout Inventory*

Item Code	Items	Factor Load
GJBI 47	The fact that in my work place, knowledge, skills and talents are not considered in the employment process makes me alienated from the profession.	0,855
GJBI 28	It demotivates me that the job does not offer enough social security, if any.	0,746
GJBI 07	I think I properly fulfill the requirements of my job.	0,761
GJBI 38	It demotivates me that institutionalization is not applicable in my work place.	0,621
GJBI 31	The conflicts with managers and colleagues bother me.	0,679
GJBI 10	I wish I did not need money and I could work at my own sweet will.	0,769
GJBI 16	I think my work place fails to offer career and Professional development opportunities.	0,632
GJBI 15	I am concerned with not being able to live up to the expectations of my employer.	0,647
GJBI 30	I feel reluctant to follow up the developments in my job.	0,572
GJBI 20	I hate my colleagues.	0,736
GJBI 12	My opinions and suggestion in the work place are considered and appreciated.	-0,750
GJBI 23	I think I am underpaid.	0,794

When Table 20 is analyzed, it can be seen that factor loads are higher than 0.500. It can also be seen on the table that the item with the highest eigenvalue is “GJBI47” and it is followed by “GJBI27” ve “GJBI07”, respectively.

#### 4. DIFFERENTIATION OF PROFESSIONAL BURNOUT FROM JOB BURNOUT

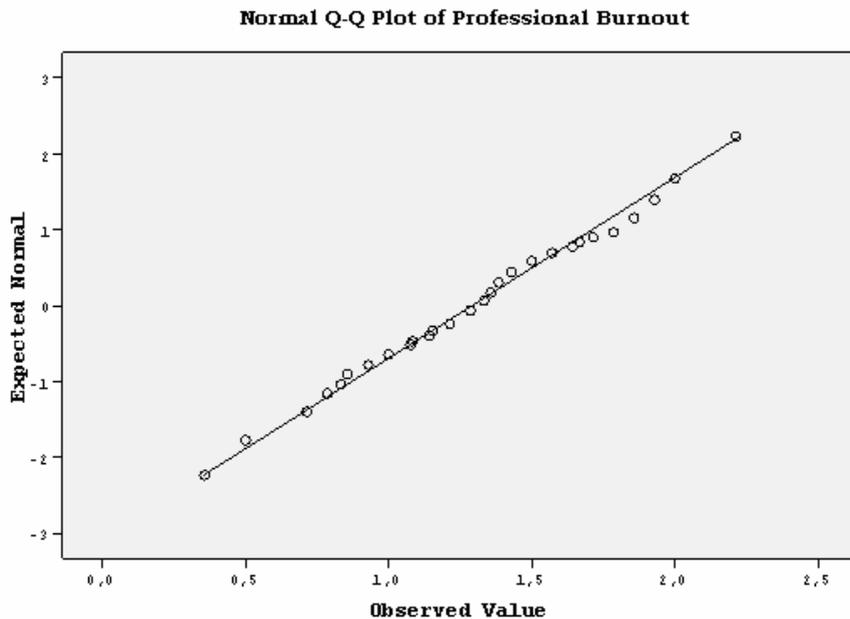
The inventory has been administered to 120 respondents. The arithmetic average of the 14 items about professional burnout has been calculated, considering the items with opposite meanings, and the resulting score is called as professional burnout. Similarly, the arithmetic average of the 12 items about job burnout has been calculated, considering the items with opposite meanings, and the resulting score is called as job burnout.

**Table 23** *The Results of Shapiro-Wilk Test of Normality of Distribution*

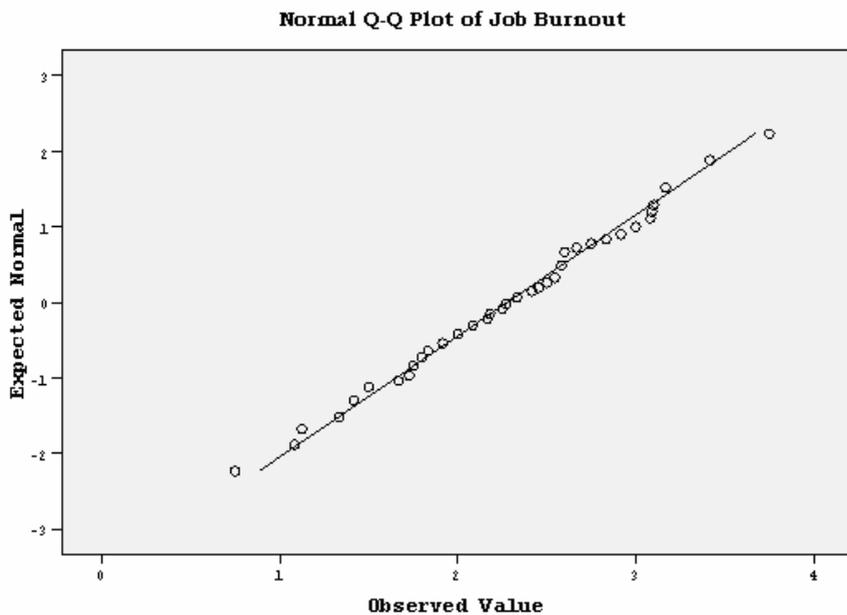
	Statistic	Shapiro-Wilk df	Sig.
Professional Burnout	,983	116	,151
Job Burnout	,989	116	,456

In order to test the distributional normality of the two newly obtained variables, a Shapiro-Wilk has been conducted and a Q-Q plot graphic has been provided. Both variables have turned out to have normal distribution. The findings are given in Table 23, Chart 1 and Chart 2.

**Chart 1** Normal Q-Q Plot of Professional Burnout



**Chart 2** Normal Q-Q Plot of Job Burnout



A matched-pair t-test has been conducted in order to test the differentiation between professional burnout and job burnout of the people in the sampling group. The findings are given below in Table 24.

**Table 24** *Matched-pair t-test*

	N	Mean	Std. Deviation	t	p
Professional Burnout	120	1,27	0,435	-15,851	0,000
Job Burnout	120	2,34	0,702		

It is clear from Table 24 that professional burnout of the employees differentiates from their job burnout and this is a statistically significant difference ( $t=-15.851$ ,  $p<0.000$ ). This can be considered evidence indicating that in terms of burnout syndrome of individuals professional burnout differentiates from job burnout. In other words, measuring burnout syndrome in terms of professional and job burnout using different scales stand out as a significant difference in identifying the burnout conditions of individuals.

## 5. CONCLUSION

There are plenty of studies on burnout syndrome, which causes individual and organizational problems. This study, however, suggests that burnout syndrome differs according to profession and job concepts and therefore, it is essential that professional burnout and job burnout be measured using different scales.

In the study, two inventories have been developed; “The Gazi Job Burnout Inventory”, an inventory of 12 items, intended to identify job burnout and “The Gazi Professional Burnout Inventory”, an inventory of 14 items intended to identify professional burnout. The idea of developing these inventories was born out of the need to measure the two different dimensions of burnout syndrome; namely, professional burnout and job burnout. This will contribute to the studies of researchers in identifying the reasons for the negative outcomes of burnout syndrome.

Presenting whether burnout syndrome stems from work life or the choice of profession, these inventories will ensure to identify how to handle the precautions and suggestions to be developed for burnout syndrome.

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ESSAY

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# SOCIAL PSYCHOLOGY AND MARKETING: THE CONSUMPTION GAME. UNDERSTANDING MARKETING AND CONSUMER BEHAVIOR THROUGH GAME THEORY

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***Abstract:** Consumer psychology provides enough evidence that consumer behavior is not just one side of our existence, but, as a matter of fact, it is a central dimension of our everyday lives, engaging us into changing and defining our identity, beliefs, attitudes and practices. In relation to this, commodification has reached us on all levels: everything that people created, produced and developed over the years, during the post-industrial era, can be commodified and sold to a specific market. Commodification and increased consumption are crossing the line between values and needs, production and creation, identity and capital accumulation, thus making people constantly expecting a payoff while engaging in social, cultural and economic transactions. In this article we argue that we can use the models of game theory to understand socio-economic phenomena such as consumption, B2C marketing and market dynamics.*

***Keywords:** Game Theory, consumer behaviour, commodification, decision theory, marketing*

***JEL Codes:** C7, C91, M31*

## 1. AN INTRODUCTION TO GAME THEORY

Game theory is an untapped theoretical and methodological resource for behavioral economists and social scientists who prefer a more rational approach to the social interactions underpinning culture, society and economy at large (Aumann & Hart, 1992). Game theorists use specific methodologies to predict and model the behavior of *rational, self-interested players* in various interactive

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situations, thus claiming that game theory provides a solid methodological and theoretical background that could successfully explain the complexity of social dynamics, culture emergence and consumption patterns (Elster, 1982). To understand why, some concepts need more explanation, and we shall rest our attention upon them later on.

The fact is that, game theory received more attention from theoretical economists than from social scientists, more likely because according to the game theory framework people are expected to be rational and act optimally in a given set of circumstances (*game matrix*)<sup>1</sup>. In real life, these expectations remain unmet, while social scientists often find that people's decisions and strategies are based on irrational beliefs, subjective cognitions and personal interpretation of data.

Although the most common approach, since 1970s, in game theory is concerned with economic applications and modeling of market dynamics (in which self-centered, rational economic agents concerned with prices and interest rates trade with one another) game theory has ignored the consumer (Rasmusen, 2001)<sup>2</sup>, the marketer and the advertiser, who also play a role in the game of economic agents such as companies, production firms, manufacturers and traders. Game theory never saw a logically valid connection between the agent and the consumer, specifically because the consumer is not aware of or does not care about its influence on the agent's actions and decisions. The missing links can be found in (1) *marketing*, as a strategy used by the economic agent to influence the consumer - who is expected to behave in a *self-interested* manner, and (2) *consumption*, which is pervasive in all social strata, while consumers react to specific marketing messages in which the benefits of consuming are translated in both material and immaterial gains (*psychological* – such as satisfying a need or desire, *social* – such as the growing power of a brand, created via multiple, repeated purchases over time; or *moral* – such as the feeling of empowerment, authority and success).

## 2. GAME THEORY – CORE CONCEPTS

Game theory uses formal logic and mathematics to rationally predict the outcome of a game-like situation with two players, from the disputes of couples over where they should spend the evening, to more risky situations, like conflicts and business decisions. In order to understand game theory, one must understand its key concepts: *players, actions, payoffs and information*. This is the PAPI model and refers to **static games**. *Extensive-form games* will also include (1) the

moment in which one player makes a move, (2) the order of moves, (3) the player's payoffs as a function of the moves that were made, (4) what the player's choices are when deciding to make a move, (5) what each player knows when he makes his choices (6) the probability distribution over any exogenous event<sup>3</sup>, (6) if the players can observe each other and (7) if they know everything there is to know about each other (complete vs. incomplete information sets; perfect vs. imperfect information set games)<sup>4</sup>.

Game theory assumes that the player is a rational agent, capable to predict and accurately evaluate the outcome of choosing one strategy over another, in a situation where the number of strategies to be chosen varies from 2 to  $n$ , in relation to another player, whose strategies will also vary from 2 to  $n$ . It is important to note that there must be a connection between the players – they must be aware that their decisions are co-dependent, in the sense that whatever one *does* will have a consequences for both players (Rasmussen, 2001). Further on, what a player *can do* is part of his **actions set** and the player can foresee the results of his chosen actions. Once the player chooses to act in a specific way, he will also expect certain outcomes and accordingly, the player will design her own **strategy**, given his predictions and expectations are accurate.

On one hand, the players and their actions are part of the active forces that shape the game as it unfolds. On the other hand, the **payoffs** and the **information set** are part of the defining factors of a game. Each player's action constitutes the input, which is normally smaller than or at least equal to the expected payoff. The payoffs are most often represented by the *cardinal and ordinal utilities*<sup>5</sup> (J. von Neumann, 1947) that players will eventually benefit from when the game is over. *Cardinal utilities* can be easily measured and the most relevant example would be that of money. *Ordinal utilities* constitute of immaterial benefits, which are usually ranked based on preferences.

Once the game begins, **the information** available to players may be complete or incomplete, thus the players involved may have to make decisions *under uncertainty*<sup>6</sup>. The information set will include data about the players, the payoffs, the rules of the game, the context and the details mentioned in extensive-form games. As the game unfolds, both players make use of this information to make better decisions and ultimately receive the expected payoff. The agents are also **aware of one another**, so their evaluation of the other players involved is also part of the information set of the game.

**The problem of awareness** should be understood in a larger sense, in my opinion. One cannot be constantly aware of every aspect of the game, since *people have limited cognitive resources and often make use of shortcuts and apparently skip irrelevant details when making a decision*. In theory, players do not have limited cognitive resources and they expect that every player involved in the game is rational and aware of all the rules of the game. Nonetheless, if our intention is to make sense of game theory in real life situations, with real human beings involved, we need to accept that people do make mistakes, that they may underestimate or overestimate another player, that they do not always behave *rational* and often *prefer to play suboptimal strategies*. We will focus on this aspect in the next section of this article.

One core assumption of game theorists is that players are *self-interested* and therefore will always try to maximize the payoff when choosing a strategy, even if that payoff is either a gain (the output after playing a strategy is greater than the input before starting the game) or a loss (that is, the most acceptable losing strategy, if there is no other choice but to lose something once entering a game – this is exemplified and explained by the *maxim in strategy*<sup>7</sup> in *zero-sum games* (J. Von Neumann & Morgenstern, 1947).

The idea that people are in essence *self-interested* has received attention from various prominent academics, scientists and philosophers: from David Hume, Charles Darwin, Emile Durkheim and Adam Smith to Richard Dawkins, John Nash and Bill Hamilton. It is very important to note that being *self-interested* does not have the same meaning as being *selfish*. *Self-interested behavior can facilitate cooperation between people, if cooperation is the best strategy for achieving desirable outcomes for every member of the group*. This situation is often illustrated in the way people make use of *public goods* (Olson, 1965) and resources: although each party is motivated to benefit the most from the public resources available, if people behaved selfishly, the available resources would be exhausted in short time and nobody will benefit from it if this happens. In other words, using the public transportation services without a ticket is a self-interested behavior because the cheater will keep the money and get a free ride, but if this self-interested behavior would be generally adopted, the public transportation system would soon be made unavailable, due to money shortage. Although not paying the ticket is the dominant strategy, leading to maximum payoffs, cooperation (paying the ticket) would make public transportation available for a

long turn for anybody and even at even lower costs/ticket. This situation alone does not fully describe the idea underpinning this concept, as we shall see further on.

As we have shown, *self-interested* individuals may be motivated to cooperate if cooperation leads to benefits that are reasonably more relevant than the benefits of playing strictly dominant strategies. What else could best describe the *self-interested* behavior type? Theoretically, being *self-interested* is a sufficient condition for being motivated to outperform oneself, again, if the payoffs of outperforming are greater than the payoffs of keeping the same level of performance as before, and most of the time, outperforming is usually more beneficial.

### Using Game Theory

*Self-interested* individuals always try to maximize the payoffs they reach while playing a strategy. We already know that the payoff is the *cardinal or ordinal value* ascribed to a specific output. A self-interested attitude will motivate people achieve better results in whatever they do, if high performance is correlated with higher payoffs (which is often the case in capitalistic societies) thus self-interested individuals will always raise the standards of competitive social and economic behavior. A.D. Alexander saliently concludes that “*Ethics, morality, human conduct, and the human psyche are to be understood only if societies are seen as collections of individuals seeking their own self-interest...*” (1987, 3).

In game theory *self-interested players* will always try to find those strategies that are best responses in a given information set. They will do so by: (1) predicting the other player's choices, based on the assumption that the other player is also trying to maximize her own payoff and therefore play a dominant strategy; (2) estimate what the other player's best strategy would be at specific times during the game; (3) find the best strategy for herself at any given moment during the game and (4) try to make the other agent play in such a way that both players reach a perfect *equilibrium solution* (Nash, 1951). The strategy profile is a Nash equilibrium if no player has any incentive to deviate from his strategy given that the other players do not deviate. The *perfect equilibrium* can be achieved in several ways, included *iterated dominance*. It does not mean that the players will receive the highest possible payoffs they can get, it means that the game has reached an outcome point where all players simultaneously benefit from having played a certain strategy. The Nash Equilibrium is exemplified in the following game matrix:

	C1	C2
R1	10,1	-5,+20
R2	+20, -5	0; 0

C1 and C2 represent the two possible actions of player C and R1, R2 represent the two possible choices of player R. If R chooses R1 and C chooses C1, both receive 10 points. If R chooses R1 and C chooses C2, then R loses 5 points and C loses 20 points, and so on, according to the table represented above. The best choice for both players would be that they choose R1 and C1 respectively, therefore this strategy profile is a Nash Equilibrium. Nonetheless, if R is strictly *self-interested* and wants only to maximize her own payoff, then R will have to choose R2, in which case R wins 20 points only if C chooses C1. But since C is also rational and *self-interested*, she will prefer to play C1 only if R plays R1, which means that C should be able to observe R's moves. Since a static simple form game assumes that both players choose simultaneously without observing each other, we will not go into further details. In this case it is almost obvious that, if people could cooperate (or at least trust the other players are cooperative) they could be self-interested and win at the same time, by reaching the Nash Equilibrium.

Game theory fails to predict social behavior in several situations because in real life people do not want to play strictly dominant strategies. One example is the *Ultimatum game* (Von Neumann & Morgenstern, 1947) in which one player – A - who has, for example, 10 dollars will decide how much he wants to give the other player - B - who can choose to accept or reject the offer. If player B refuses the offer, both players receive nothing. A self-interested player A will give the smallest amount possible – 1 dollar – and a self-interested player B will accept the offer since 1 dollar is better than 0. Evidence proves that players A are far more generous, over 40% of the subjects involved in various similar studies offering more from 30 to 50% to the other player. On the other hand, player B behaves contrary to game theory's predictions, that is, a significant number of players B will refuse an offer that is lower than 30%, thus punishing the player A for having made an „unfair” offer in the first place (Camerer and Thaler 1995; Guth and Tietz 1990; Roth et al. 1991).

This is just an example of suboptimal behavior preferences, illustrated by the results of several studies carried out in various conditions. It was shown that the strategy profile preferred by the subjects is influenced by the cultural background of the subjects. Being more generous and more cooperative is culturally

conditioned and often people who value cooperation will use various forms of punishment to discourage non-cooperative behavior. This was shown by Toshio Yamagishi (1986) who studied how people behave in *The public goods game*. In this type of game, subjects are given an initial credit, for example 20 points, which are convertible in real money and they can choose how much to contribute to a public account, which will later be split among all the participating subjects. In theory, self-interested subjects should choose to contribute with 0 points. This way, they will not lose money and if other players will contribute, then they will finally have more in their personal account than any other player. This type of behavior is seen as *unfair* and, if given the possibility, most of the participating subjects would punish it. In real life situations people will create special entities that will have the power to *fine* or *punish* non-cooperative or cheating behaviors.

### 3. USING GAME THEORY TO UNDERSTAND SOCIAL INTERACTION AND THE EMERGENCE OF CULTURE

In theory, everything works well as long as it obeys the *Occam's razor* rule: the simpler the set of premises, the more accurate (testable and verifiable) an hypothesis becomes. In real life, being 1) *self-interested* and 2) rational are not sufficient descriptors of the players. People are complex and they love making things complicated, even if their behavior can be partly reduced to simple explanations. In real life it would be awkward to stick to only one criteria of selection – the strategy that is most attractive to a *self-interested*, rational individual, trying to maximize their pay-offs. Not only do we have to add in this equation the socio-cultural influences, biological and psychological factors, which account for most of the individual's choices, but we also have to understand that the concept of payoff is extremely relative and that the payoffs may change many times during the same game or may not bear the same meaning for all the players involved.

The application of game theory to real-life situations requires that we use the concepts, the rules and strategies presented by game theorists in more flexible ways, adapted to the complex world we live in. Game theory should not be an isolated subject; instead, it should encourage the researcher to have a multi-disciplinary approach, crossing into decision theory, social dynamics, group psychology, psychology and economics. For example, people will often behave in such a way that they will receive the highest payoffs if that behavior is socially

acceptable and if their strategy does not require too much effort, as we shall see in the next section. Strictly dominant behavior nonetheless can be considered *cheating and it is not tolerated*.

Following Rasmussen's call to using a theoretical model in a more results-oriented way, the aim of this article is to pinpoint the possible new understanding of human behavior, as exemplified by the consumer-marketer relationship.

In this section we will argue that *self-interested individuals* will not choose strictly dominant strategies if the effort required to act them out is greater than the effort required if they were to choose alternative strategies. To see how this happens, we go back to analyze how game theorists describe a game by using *4 descriptors: the players, the payoffs, the information set and the actions*. As we have said before, the players are supposed to function optimally in every game, so that during every game they will fully use the information available to find the best possible strategy.

As a matter of fact, people will often fail to perform to the expected optimal level because not every situation motivates them to find the best strategy. People are players and the cultural, economic and social context in which they dwell will represent the larger information set in which various types of games are played. The expected payoffs, the alternative actions available to each player and the information that she can access will be taken into consideration before choosing a certain strategy. When choosing a strategy every player will also consider the cognitive resources required by her choice and this is the main reason why we will observe players choosing suboptimal or even dominated strategies. This is especially frequent in the case of cultural behavioral patterns, which are learned from peers and require lower cognitive resources than any other alternative strategy (J. Bednár and Page, 2007).

Bednár and Page (2007) come to the conclusion that, "*when purposeful, incentive-sensitive agents confront multiple strategic situations rather than just one, and when cognitive effort is costly, we find that culturally distinct behavior is likely and in many cases unavoidable*". Rational, self-interested agents will choose to behave culturally for many reasons, such as *cognitive resources and energy preservation, behavioral consistency, social pressure, behavioral subroutines and passive involvement* in specific decision-making situations. In their article, the authors focus on cultural behaviors that are constructed and learned in time by individuals. They also note that cultural behaviors are not necessarily optimized

and may not bring the highest payoff to the agent, on the contrary, cultural behavioral patterns evolve from *constrained self-interest and therefore prove to be suboptimal*.

They also clearly identify five dimensions of culturally evolved behavioral patterns, which are easily adopted by individuals and therefore will always lead to suboptimal strategies:

- a) **Intra-individual consistency** – individuals will respond or act in a similar way, in time, as they move from task to task
- b) **Inter-agent consistency** – individuals from the same community may tend to act like one another
- c) **Contextual effects** – depending on contextual circumstances, individuals from different cultural communities may behave differently in similar situations.
- d) **Behavioral stickiness** – individuals may not change their behavior despite changes to their incentives.
- e) **Suboptimal behavior** – The strategy employed by individuals within a community *may* be suboptimal, where individuals could benefit by acting in a different way. Formally, the behaviors are not equilibrium strategies in the repeated games or if they are equilibrium strategies, the resulting equilibrium does not belong to the set of *Pareto efficient equilibria*.<sup>8</sup>

#### 4. MARKETING AND CONSUMERS: THE CONSUMPTION GAME

**Consumption** has become a core component of our social life, in the sense that inter-individual transactions can be seen as part of games that we play, provided that the payoffs are of significant cardinal (symbolic) or ordinal value (material).

After the World War II, on the background of a significant economic growth and general income increase (Goldsmith et al., 1954), people started to buy more, thus consuming more according to their „wants“, rather than according to their „needs“. Social symbols of wealth and prestige started to be used more often in the promotion of goods and services and this transfer of values from intellectual, moral and social spheres to the market had a profound effect on a population whose desire to indulge in socially determined consumption had never been greater. The effects of commodification have been spotted in time by theoretical economists,

and they soon came up with a new model of goods and services, in which social and psychological factors received more attention and interest.

Neo-Marxist models of consumption describe goods and services not only as *commodities*, but as social symbols too, used by people as marks of power, prestige and wealth<sup>9</sup>. We enjoy consuming goods and services primarily because of the social and symbolic significance of the purchase (Douglas and Isherwood, 1980). Although this view is highly consistent with the reality of market dynamics and consumption, it was taken into consideration by both theorists and marketing practitioners only after 1960<sup>10</sup>. In 1966 Lancaster's remarkable contribution changed the way products were defined, arguing that each product comprised a unique set of properties and characteristics from which utility was derived by the consumer.

This view changed traditional approaches of consumer behavior and ultimately led to a major paradigmatic shift from the initial description of the consumer as passive, receptive and interested in price, quality and the physical utility of goods; - to a more comprehensive approach, in which the consumer takes an active role in deciding what to buy and for what purposes – practical, material or symbolic. Francis Bourne (1956) also supported this view and he suggested that while consumers could buy goods independently from any significant social influence, there are often times when consumers would be very sensitive to external factors and justify their choices purely on the account of brand, social impact and desirability.

Bourne described the characteristic of goods to be socially desirable as „*conspicuousness*” and used *brand desirability* and *utility* to create a new model consumption. He would use the two characteristics to identify four categories of goods and examine the way consumption patterns and decisions were different in each case.

	Utility Minus	Utility Plus
<b>Brand Minus</b>	Neither brand nor utility are important to consumers.	The utility of the product is very important and brand conspicuousness has little or no relevance
<b>Brand Plus</b>	Products which are not very useful to consumers, but which are constantly purchased because of the symbolic value of the brand associated to them is far more important for the consumer.	Both utility and brand conspicuousness are important factors for consumers.

In fact, Bourne was a visionary, suggesting that products should be marketed to social groups and individuals, not to the masses, in order to be successful.

Bourne's contribution marked the transition to modern marketing theory, in which products are classified according to the number of *rewarding responses* they evoked - based not only on the physical attributes of goods but also on the social and psychological benefits associated with consumption<sup>11</sup>". (Mason, 2005)

These changes in product taxonomy reflect the realities of the 20<sup>th</sup> century in which consumption is part of a more complex, diverse and controversial social discourse. In a postindustrial world, the modern entered the century of symbolic consumption, in which people seem to buy things in order to achieve happiness and derive immaterial satisfaction from goods and services. Half way through it, we acknowledge the illusory benefits of commodification and accept it as part of our lives. Before 1900, art, culture and status were the only coordinates we had to identify the moral values we were trying to reach. In time, as things became available in all markets, we started to search for that grain of happiness on the shelves of the biggest supermarkets and malls in town. In conclusion, in the past century our modern society was facing a new type of challenge: finding happiness in the code bar, as higher-standards living was the main purpose for which people worked.

## **5. A CONSUMER SOCIETY: COMMODIFICATION AS A SHAPING FORCE OF SOCIAL INTERACTIONS**

As consumption takes away most of our spare time, culture industry shapes the way we perceive the world around us. The best and most popular products are the ones that increase profit on one hand, and make consumers happy with their purchase – on the other hand. Products and services are there not only to satisfy basic needs, but also to help us find a meaning in our day-to-day existence. The world population increases dramatically and the market becomes a shaping force of the mass culture. In a time of political and economic turmoil, we find similar products all over the world, as a proof that commodification breaks down the barriers of politics, ethnicity and social discrepancies. Poor or rich, literate or illiterate, people want to buy soda, watch soap opera, chew gum and eat potato chips. Behind the name of the product, there is the concept of a consumption-based lifestyle, in which what we buy becomes the statement of what we want to be or have become (Slater, 1997).

Moreover, for the past two decades, the *new media* and the Internet became a connecting bridge between corporations and consumers. The relationship between

marketing and the consumer is closer to a one-to-one game than ever before. Described as the big new thing in relationship marketing, *social media* is now the official context in which *consumption becomes part of our personal histories*: consumers share their views on new products, build up social representations of the new age lifestyle and ascribe modern values to goods and services that can be purchased over the Internet (Zwick, Detlev and Dholakia, Nikhilesh, 2008).

Interestingly, the word „consumer” still bears negative connotations derived from the idea of passive consumption and it is usually replaced with „customer”, which is more likely associated with the image of a responsible individual who chooses to develop constructive relationships within the marketplace (Lang, 2006). Nonetheless, this type of relationship is hard to get for most of the people: some families may seriously consider educating their children so that they are able to refrain themselves from hedonistic consumption; other families may have no other choice but to carefully spend their monthly income so that they would still lead a decent life. For the latter category, consumption becomes the modern ideology through which they pursue higher-standards of living, but it can also be part of a social movement towards less-regulated markets and increased production.

In any case, consumption is omnipresent, as part of global and local markets, mediating people's access to resources and enabling them to achieve their goals. Its core value is *the freedom to choose*, thus making people feel powerful. In fact, whether choice makes us the true authors of our lives or not, remains an unanswered question. Choosing from things that are marketed to the masses is not exactly the expression of freedom, but it is *the most popular expression of the self in modern societies*.

## 6. THE PAYOFF – THE GREATEST INCENTIVE

The first connection between consumption and game theory can be made through the philosophical interpretation of *consumption as large scale manifestation of people, groups and societies trying to receive higher payoffs/benefits from their interaction with the offering agents – companies, industries and corporate entities*. These manifestations stem from people striving to achieve *specific goals in life* and, accordingly, reach certain satisfaction levels.

One of the most comprehensive definition of *consumption as a goal-oriented activity* can be found in *The Why of Consumption: contemporary perspectives on consumer motives, goals and desires* edited by S. Ratneshwar, D.G. Mick and C.

Huffman. In this book *being goals* refer to what a person wants to be, in terms of her identity, status, social relations and appearance. In this case, that person may develop preferences for specific brands of clothing, personal use items and cosmetic products. Also, in her pursuit of happiness, being somebody (for example a renowned doctor) means that she may have to attend certain classes, buy materials that are suited for her education, make friends and connections in a specific area. Everything that a person *does in order to be somebody* implies that she will become a specific type of consumer. Being goals are most closely associated with life themes and values. This goal level refers to conceptions of cherished or desired self-states, that is, who a person is trying to be (Mick and Buhl, 1992)

Marketing specialists will have to understand how being goals are achieved, whether objectively or illusorily, through cultural behavior, consumption patterns and preferences and personal perception of available goods and services.

*Doing goals* are related to specific consumption behaviors that have a functional role in our modern times. These are represented by current concerns that are easily taken for granted (eating, writing, traveling, relaxing, organizing and maintenance, etc). Notwithstanding, *doing* something to achieve a certain level of satisfaction means that one should have specific items: from decent clothing to PC, mobiles, cars, a place to live, so on and so forth.

There is a strong relation between the aforementioned types of goals. For example, buying clothing is specific for both *having and being goals*: one may not be satisfied with having one pair of jeans, on the contrary, one may start to feel powerless and depressed for not being able to wear a certain brand of jeans.

*Having goals: having is all about what one has or what one can buy. We start to compare with one another as soon as we begin to earn an income. Then the comparison criteria becomes harsher and harsher, that is, we have to earn more and more to be happy about ourselves.*

“Consumer culture involves a quest for meaning in life primarily through consumption. With our logo-laden clothing and shopping bags, we roam the shopping mall in search of an identity and in search of meaning in life”(Belk, 2006).

In a consumerist society people seek for a higher meaning in life in eclectic sources, from the exchange of goods and services, to televised entertainment, hi-tech gadgetry to new-age spiritualism and mystical interpretations of life events.

Facing this desire to find mystical and miraculous answers to our own existence, the world of commerce is happy to come up with mystical, magical and surreal images, via brand images and messages conveyed to the broad public.<sup>12</sup> In this case, the game matrix takes various forms, but there is still a universal pattern that may look like the one below.

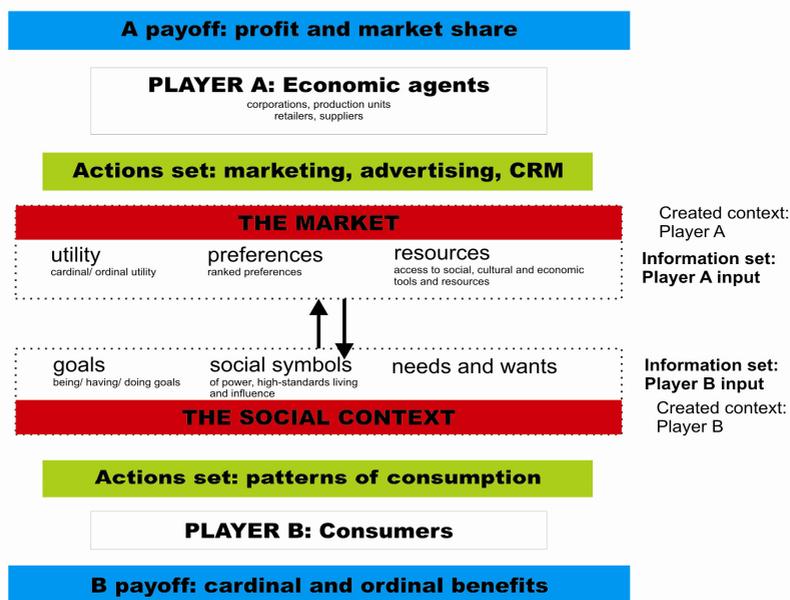


Figure 11 The game matrix

## 7. THE GAME

The game begins when the marketer decides to introduce an *incentive* in order to stimulate demand. In a market where a demand-based equilibrium is decisive, *production* should decrease when *demand* decreases. Ideally, if one product is the best choice for a specific need, there shouldn't be too many variations of it on the market and therefore, marketing should only be limited to creating and promoting a product to a market that has not been successfully covered. Nonetheless, the market is not dominated by the equilibrium naturally created by *offer and demand*. Every company seeks to make profit and receive a higher market share based not only on what they have to offer to the market, but

also on what they would make consumers think they can receive when making a purchase.

When basic needs are covered, corporations are left with higher level desires and wants, motivations to buy and goals - so the next step would be to explore this side of the human psyche to attract more consumers for a longer period of time. That is one strategy and often the most successful one, in terms of long term profit and market share – often channeled through *brand development*, *advertising* and *media*. The other type of strategies appeal to impulse, emotions and spontaneous motivations to buy: such as *promotions*, *direct marketing*, point-of-sale marketing, online marketing. In essence, economic agents – A type players – will use marketing methods and incentives to reveal the multiple benefits of a purchase.

At this point it is necessary to draw a line between material benefits, which respond to basic needs, and immaterial benefits, which can bear significant social importance to the individual, and add up to his/her overall satisfaction and well-being in such a way that she/he may perceive these benefits as being more relevant to them than the material ones.

„Material well-being is itself understood in terms of certain basic needs that must be satisfied for any individual to be physically fit and economically productive. This conception of material well-being had the advantage of being observable and measurable,”<sup>13</sup>... while immaterial well-being is all about the experience of consumers.

Material well-being is a convenient approach to utility because it allows theorists and practitioners use various scales of measurement to encode and study how utility influences consumers behavior. Material well-being is only tangentially connected to the desirability, conspicuousness of a product. Pareto was one of the few theorists to have made a clear distinction between *utility* (a property of things which are “conducive to the development and prosperity of an individual, a people, or the human race”) and *ophelimity* (which he understood in terms of a thing’s capacity to satisfy an individual’s desires).

Nonetheless, it is necessary to note that, although the concept of *utilitarianism* was recently revived by rationalists and economists, its origins can be traced back in history, starting with the Greek philosophers. Aristotle's view on this issue is connected to his conception of happiness and the feeling of fulfillment in life or *welfare*. He clearly makes a distinction between pleasure, as derived from hedonistic activities in everyday life, and happiness, which could be achieved by

doing something meaningful, reaching a certain level of excellence and carrying out worthwhile activities (i.e. in accordance with human excellences of mind and character)<sup>14</sup>. This distinction is closer to theoretical philosophy and morality, rather than to a pragmatic definition of utility, but it is one of the finest expression of what humanity is trying to find through various types of activities, including *consumption*.

In psychology, the first to pinpoint the roots of *utilitarianism in human nature*, was A. Maslow, who suggested that people will always try to satisfy their basic and simple needs first (pleasure, material well being, security and comfort) and then try to reach higher and higher levels of satisfaction, achieved through more complex and energy-consuming activities, which should ultimately bring happiness. The motivational pyramid, seen as an endogenous map towards happiness, was deliberately used by social psychologists to understand consumption patterns immediately after the first symptoms of „*consumption as a means to achieve happiness*” were identified in the post-industrial era.

The connection between utilitarianism and consumer behavior is marked normatively by using rankings of products and services based on personal preferences (Broome, 1999)<sup>15</sup>. *Therefore, pragmatically, for a company to be successful, in a type of market described by **perfect competition**, it should provide services and products that are **preferred** to any other alternative that consumers might find in the market.* Consumer satisfaction is not enough: consumers are free to choose the way they want to satisfy basic needs, *to the extent that they can afford paying for the desired means of satisfaction*. Also, consumers may switch from one type of product to another, since they can be *sensitive to various types of incentives* (promotions, brand image, media and social influence). Therefore, the best way to measure the succes of a business plan or marketing strategy, is to rate consumer's preferences of a specific product over another and connect with the number of sales/item. It is reasonable to assume that strong preference should be converted in sales.

In essence, the market is the specific economic context in which game-like interactions are created: not only between players from the same category – economic agents, companies, corporations – but also between players from different categories – between a company and the targeted consumers, as shown in Figure 11. The latter type of game is laid out and created by marketing specialists,

who try to *act on* various levels of the motivational pyramid, in order to make consumers *give in* to the temptation of satisfying their *wants*.

Interestingly enough, *marketing has the power to create stories, meanings and illusory benefits* and attach them to a specific product or service. The term *illusory* is used in the sense that people may use a specific product *mostly because* they think that the characteristics of that product makes them more happy or may have a special influence in their lives. For example, using a certain type of perfume may not only appeal to a person's preference for a certain scent, but also to her desire to use something that is promoted by her favorite artist, thus giving her the illusion that she is closer to the ideal self-image than she actually is. The perfume chosen does not have a significant effect on the buyer's personality, but the buyer may think that she is more likely to develop desired personality traits if she bought that perfume.

Marketing specialists are aware of people's propensity to receive instant and illusory gratification and the consumption game is carefully crafted in such a way that the payoffs are immediate and illusory. On the other hand, the payoffs that companies are trying to get are mostly concerned with increased profit and market share. The use of incentives by corporate agents to motivate employees, executives, the public and consumers themselves is an issue that should be addressed with responsibility and should be added on the top-priority list of corporations. The use of incentives and the ensuing marketing strategy should be also a subject in the Corporate Responsibility Policy of every major economic agent in the market.

## 8. CONCLUSION

Economic agents appeal to people's desire to *feel* happy, since this is one of the most powerful drives that guides human beings. They design small-scale game matrices through marketing, in a way that, whatever payoff the consumer receives, companies still make profit. In this case, not only the payoffs, but also the actions set available to consumers should be influenced. As shown in this article, the prevalent actions set in our modern society can be understood in terms of *patterns of consumption*.

As long as the *ordinal and cardinal utility* derived by people from available goods and services still fulfills their *goals*, consumers will play a *dominated strategy* in which they spend available resources (money, time, energy) in order to receive the promised *benefits* of *marketed* products. As *consumption* increases,

people respond more to commercial incentives and illusory benefits advertised in the media, justifying their choices in terms of immediate payoffs – which is exactly what economic agents expect that to do.

*Self-interested behavior*, a key concept in biology, psychology, sociology and economics, is natural to the human beings, as well as their quest for excellence and desire to create, define and develop their identity. This article has shown that *commodification* is part of a large-scale game played by self-interested economic agents and self-interested consumers who try to reach specific types of payoffs. Apart from this, economic and social problems may arise, if this payoff-incentive oriented dynamic is not regulated. The over-use of financial and non-financial incentives to encourage consumption may confuse and alienate young generations, in their quest for a meaningful and value-oriented life. On the other hand, increased competitiveness may soon lead to depletion of resources and over-saturation of markets with goods and services of doubtless or mediocre use and value.

If game theory can help us see the world through the eyes of both types of players, perhaps it would be wise to find that equilibrium strategy where none of them will have any incentive to “push the limits”. As a closing line, a strategic and responsible approach is needed to create a sustainable social, economic and natural environment for future generations.

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<sup>1</sup> A *game matrix* is a complete logical description of a game-like situation, in which the following are specified: (1) the players involved (at least 2, designated by a character, such as P<sub>1</sub>, P<sub>2</sub>...P<sub>n</sub>); (2) all the possible reactions of the players that lead to a specific outcome, which, in static games, is usually a (3) payoff (*the cardinal or ordinal value that the players ascribe to an outcome*)

<sup>2</sup> „They are not in a game with the readers who buy the newspapers, because each reader ignores his effect on the publisher. Game theory is not useful when decisionmakers ignore the reactions of others or treat them as impersonal market forces.”

<sup>3</sup> Drew Fudenberg and Jean Tirole, *Game Theory*, MIT, 2000

<sup>4</sup> Graham Romp, *Game Theory – Introduction and Applications*, Oxford University Press, 1997

<sup>5</sup> J. von Neumann and O. Morgenstern, *The Theory of Games and Economic Behavior*, 2nd Ed., Princeton University Press, 1947

<sup>6</sup> D. Kahneman, P. Slovic and A. Tversky, *Judgement under Uncertainty*, Cambridge University Press, 1982

<sup>7</sup> The *maximin rule* or *strategy* is a set of actions that minimizes the player's maximum loss in zero-sum games (Von Neuman, 1928). This strategy is best applied in games where one player's gain is another player's loss and, presumably, the losing player knows this situation, therefore the most reasonable strategy that she should choose should ensure minimum losses to one of the player and

at the same time, maximum gains to the other – thus leading to another type of Nash equilibrium in zero-sum games.

<sup>8</sup> Jenna Bednar and Scott Page, *Can game theory explain culture? The emergence of cultural behavior within Multiple Games*, *Rationality and Society*, 2007, 19; p. 69

<sup>9</sup> Mike Featherstone, *Consumer Culture and Postmodernism*, Secon Ed. 2007, p. 17

<sup>10</sup> Roger Mason, *Missing Links: Product classification Theory and Social characteristics of goods*, *Marketing Theory*, 2005, 5, 209

<sup>11</sup> Roger Mason, *Missing links: Product classification theory and the social characteristics of goods*, *Sage Journals - Marketing Theory*, 2005, 5, 309

<sup>12</sup> Kelly Tiann and Russel W. Belk, *Consumption and the Meaning of Life; Research in Consumer Behavior*, vol. 10, Elsevier, 2006

<sup>13</sup> Jose Luis Bermudez, *Decision Theory and Rationality*, Oxford University Press, 2009

<sup>14</sup> Geoffrey Scarre, *Utilitarianism*, Routledge, 1996

<sup>15</sup> From a rationalist and positivist point of view, Broome points out that the *official* meaning of *utility* should be „that which represents preference”

## BOOK REVIEW

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***ON THE WEALTH OF NATIONS, BY P.J. O'ROURKE.***  
**LONDON: ATLANTIC BOOKS, 2007. 256 pp.**

Reviewed by  
Radu ANDRIESCU\*

*On The Wealth of Nations* is a book that tries to render Adam Smith's rather difficult work more accessible to the general public and to explain the circumstances of his life. P.J. O'Rourke is known not as an economist or a philosopher, but rather as a satirist, journalist and writer, as well as a political observer with a keen sense of humor. His convictions shifted in time dramatically, from the leftist views of the hippie that he was as a student to the anti-leftist, conservative but libertarian options toward which he turned during the '70. An author with such a profile is likely to address a large readership and manage to explain in layman terms – and with humor – a work that is hard to digest even by specialists. In the preface to his more biographical book, James Buchan claims that "One illustrious British economist once boasted he had never opened *The Wealth of Nations*. Another had done so, but not *The Theory of Moral Sentiment* on the report that it contained some psychology.<sup>1</sup>" Buchanan also explains how important politicians, like present-day Prime Minister Gordon Brown or the former chairman of the United States central bank or Federal Reserve, Alan Greenspan can, in a given context, misinterpret Smith's words. If first rank economists, financiers and politicians find it hard to give an accurate image of Smith's thinking, it is quite improbable for an ordinary reader to grasp all the subtleties in his voluminous work. Moreover, how can a contemporary reader cope with the impact of the media and still find time and patience for a book of incredible length and density?

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This is in fact what one of O'Rourke's reviewers emphasizes: "Before we had radio, telephones, television, the Internet and iPods, we had books. Long books. Complicated books. Books that got read, their length and complexity notwithstanding, because before talk shows and chat rooms, what else was there to do? [...] Today, however, almost no one other than the obsessed (or the assigned) is likely to read Smith's book, which runs more than 900 pages; the author's convoluted prose makes it seem even longer than that."<sup>2</sup> The same reviewer, actually, confesses never to have been able to get more than 50 pages into Adam Smith, although he is a long time business writer specialized "in unearthing journalistic nuggets buried in lengthy financial documents that even lawyers find dull."

A few things about the history of the book. O'Rourke was asked, to his great amazement, by the editors of Grove Atlantic, to write a book on Adam Smith for a series they were preparing, "books that changed the world." In the same series there are essays on Marx's *Kapital*, Plato's *Republic*, and Darwin's *Origin of the Species*. In O'Rourke's words, this series "is kind of like that 'Idiots Guide' series, except it is not for idiots. It is for smart people."<sup>3</sup> This might answer one of the obvious questions, which I render here as it was stated by one of the book's reviewers: "why a writer of P.J. O'Rourke's talents would wish to apply his wit and charm to the 'dismal science' of economics"? Well, it appears it was not his idea, but the editors'. All the books in the series are difficult and known by most of the people only by title. *The Wealth of Nations* makes no exception, and the project required an author – a reviewer, in fact, because O'Rourke's book is in many ways a very long review of Adam Smith's work – with a huge readership and capable of bringing to life a work of genius written for a different type of reader a couple of centuries ago. O'Rourke took the challenge because he "needed the money," he claims with a smile, but he certainly wanted to help as many readers as possible to understand some of Adam Smith's ideas that he himself feels very comfortable with and also the human being beyond those ideas. He was aware of the risks of such an enterprise, but was willing to take them. He is no idealist or dreamer, and he knows very well that such a book is a product of a certain type of culture, or lack of: "TV ushered in the age of post-literacy. And we have gone so far beyond that. I mean, what with the Internet and Google and Wikipedia. We have entered the age of post-intelligence. We will live to see the day when a person of learning and cultivation is spoken of as being well-blogged."<sup>4</sup> The editors of Grove Atlantic Press are also

anything else but idealistic day-dreamers: the book was bound to sell well. In fact, in order to insure a good sale to a book which actually costs 2 dollars more than the other ones in the series, they chose to place O'Rourke's smiling a well-known face on top of the front cover. Adam Smith's name is mentioned only in small letters in the bottom-left corner of the same cover. As one displeased reviewer puts it, "While a picture of Marx graces the cover of Marx's *Das Kapital*, a wise-looking bearded fellow in a toga the cover of Plato's *Republic*, and some Arabic script for The *Qur'an* (no need to go looking for trouble there!), the cover of *On the Wealth of Nations* leaves out the name of Adam Smith entirely and has a picture of P.J."

Nevertheless, P.J. O'Rourke being a very serious writer – witty, quite humorous but a very thorough professional writer – he manages to review not only Adam Smith's *Wealth of Nations*, but also his *Theory of Moral Sentiments*, to which he dedicates the third chapter of his book. He attempt to find a connection between these two works and comes to the conclusion – seen as fallacious by some reviewers – that the *Theory of Moral Sentiments* is about loving our neighbor, while *Wealth of Nations* is about loving ourselves. If his position on several points, including this one, is debatable, the targeted readership is given a workable key for understanding Adam's Smith's writings and vision.

O'Rourke opens the book with "An Inquiry into *The Inquiry into the Nature and Causes of the Wealth of Nations*," stating, in a few subchapters, "Adam Smith's Simple Principles," his "Less Simple Principles" and his "More Complicated Principles." The simple ones solve the mystery of economics in one flash: "Consumption is the sole end and purpose of all production." *The Wealth of Nation*, claims O'Rourke, argues three basic principles, and proves them through many examples and plain thinking. These three principles are the pursuit of self-interest, division of labor and freedom of trade. These principles become "less simple" when we consider that in *The Wealth of Nations* Adam Smith – who is a moral advocate of freedom – uses arguments that are "uncomfortably pragmatic": "Smith opposes most economic constraints: tariffs, bounties, quotas, price control, workers in league to raise wages, employers conniving to fix pay, monopolies, cartels, royal charters, guilds, apprenticeships, indentures, and of course slavery."<sup>5</sup> On the other hand, he was in favor of countless restraints on persons, so that brute force should not become the ruling solution in a lawless land. As for the "more complicate" aspects of Smith's principles, his "logical demonstration of how

productivity is increased through self-interest, division of labor, and trade disproved the thesis [...] that bettering the condition of one person necessarily worsens the condition of another." The wealth of a nation is not a fixed amount of gold, a treasure. If some people get more of it, this does not mean that all the rest of the people will get less. But if wealth is not a given, how can we measure it? In the first sentence of the introduction to *The Wealth of Nations*, Smith gives an answer to this question: "The annual labour of every nation is the fund which originally supplies it with all the necessaries and conveniences of life which it annually consumes." In one stroke, Smith created the concept of gross domestic product, a concept without which "modern economics would be left with nothing much to say."<sup>6</sup>

The second chapter of the book starts with a question: "Why is *The Wealth of Nations* So Damn Long?" O'Rourke's answer seems more like a joke, but it does underline a specific type of behavior: "The simplest reason for Adam Smith's lack of economy with words was, aptly, economic. When *Wealth* was published it sold for one pound sixteen shillings. By Smith's own estimate the 'ordinary wages of labour' at the time were ten shillings a week. Consumers, even well-off consumers of intellectual luxury goods, demand good weight. Hoist Bill Clinton's *apologia pro vita sua*, which could have been summed up in a few words."<sup>7</sup> And how does the reader cope with such an extensive book of economics? By finding in it some of the nuggets of thinking of an author constantly willing to stray from strictly economic points, nuggets "that make the 892½ pages of *Wealth* [...] worth reading."<sup>8</sup> O'Rourke, always offering contemporary counterpoints, gives in this chapter an example that shows "why Angelina Jolie makes a discreditable amount of money." And here is the example: "There are some agreeable and beautiful talents of which the possession commands a certain sort of admiration; but of which the exercise for the sake of gain is considered ... as a sort of public prostitution ... the exorbitant rewards of players, opera-singers, &c are founded upon ... the rarity and beauty of the talent, and the discredit of employing them."

Ultimately, Smith's aim was to better the world, and free market was the means to do it. Not very much is needed for progress. "Little else ... but peace, easy taxes, and a tolerable administration of justice," he writes in *The Theory of Moral Sentiments*. "But those three things were then – and are now – the three hardest things in the world to find," O'Rourke adds.<sup>9</sup>

As I wrote before, O'Rourke managed to review not only Adam Smith's *Wealth of Nations*, but also his *Theory of Moral Sentiments*. He does this in the third chapter of his book. Comparing Smith's two books, he says that "In *Wealth*, Smith insisted that in order to take care of ourselves we must be free to do so. *The Theory of moral Sentiments* shows us how the imagination can make us care about other people."<sup>10</sup> We are not innately good or innately rich, but Smith believed that "we are endowed with the imaginative capacity to be both, if we're free to make the necessary efforts." Thus, Smith gives us, in his two books, a plan, a blueprint, but one "for the soul rather than society."<sup>11</sup>

The next eight chapters of O'Rourke's review analyze each book in Adam Smith's *Wealth of Nations*. The last one of these, Chapter 11, is showing us the human side of the philosopher. It focuses on Book 5 of *The Wealth*, "Of the Revenue of the Sovereign or Commonwealth." Here, Smith "yielded to the temptation to slide down Olympus" and enmeshed himself in the bureaucratic details of public policy. O'Rourke notices that by doing this, he was forgetting his own advice in *The Theory of Moral Sentiment*. There, "he warned against thinkers 'who reduced their own doctrine into a ... technical system of artificial definitions, divisions and subdivisions.' Smith called this 'one of the most effective expedients, perhaps, for extinguishing whatever degree of good sense there may be in any moral or metaphysical doctrine.'"<sup>12</sup> Moving from theory to contemporary examples doesn't necessarily help to better society. As O'Rourke aptly points out, "The mundane political issues of Smith's time were – it is sad to discover – exactly the same as ours: law and order, political pork, failures of the educational system, religion in policies, Byzantine tax code, burgeoning national debt, and runaway defense spending. Two and a quarter centuries of intractability in these policy matters would seem to indicate a certain... intractability."<sup>13</sup> But Smith, a phenomenal thinker but also just a human being, couldn't resist the temptation to reduce his own doctrine into a simple technical system. In a sense, this can only make him more likable, as humans are more likable than machines.

A very brief Chapter 12 is dedicated to "Adam's Smith's Lost Book," a book on politics that he intended to write. "There were a number of reasons that the third part of Smith's betterment trilogy, his work on 'jurisprudence,' was never finished. He was busy making revisions to *The Theory of Moral Sentiment*. He became a government official in Scotland. He died."<sup>14</sup> Beside these surface reasons, O'Rourke thinks there was yet a deeper one. Smith was a moral

philosopher and it is possible that "at some point he realized politics isn't a good place for philosophy and is no place for morals." Political systems are founded upon paradoxes too deep for philosophy, adds O'Rourke. As for the politicians – here is the image of a more successful politician, as rendered in a section of *Moral Sentiment* added in 1790, more than thirty years after the book was first printed: "They have little modesty; are often assuming, arrogant, and presumptuous; great admirers of themselves, and great condemners of other people ... their excessive presumption, founded upon their own excessive self-admiration, dazzles the multitude ... the frequent, and often wonderful, success of the most ignorant quacks and imposters ... sufficiently demonstrate how easily the multitude are imposed upon by the most extravagant and groundless pretensions."

"An Inquiry into Adam Smith" is an attempt to show the man behind the work. Smith's life was not a spectacular one, so there is little to say about it. For instance, O'Rourke mentions the only domestic anecdote that came down to us from Sir Walter Scott, who was, around 1788, an Edinburgh University student. At tea time, Smith gave Janet Douglas "some confusion, by neglecting utterly her invitation to be seated, and walked round and round ... stopping ever and anon to steal a lump from the sugar basin, which the venerable spinster was at length constrained to place on her own knee, as the only method of securing it from his most uneconomical depredations."<sup>15</sup>

As for the philosopher's romantic life, O'Rourke writes that "There is a disturbing aspect, to a modern reader, about romantic scandals involving Adam Smith: there weren't any."<sup>16</sup> Even less scandalous information about his love life is scarce. However, O'Rourke quotes one such story: "In the early part of Mr. Smith's life, it is well known to his friends that he was for several years attached to a young lady of great beauty and accomplishment ... What the circumstances were which prevented their union, I have not been able to learn; but I believe it is pretty certain that, after this disappointment, he laid aside all thoughts of marriage. The lady to whom I allude died also unmarried ... I had the pleasure of seeing her when she was turned eighty, and when she still retained evident traces of her former beauty."<sup>17</sup>

O'Rourke gathers some of the more significant details of Smith's life in this chapter, down to quoting his last recorded words, "I believe we must adjourn this meeting to some other place."<sup>18</sup> Such glimpses into Adam Smith's life couldn't help us very much in understanding his philosophical views, but it is always a good thing to be able to see a human face behind abstract ideas.

The appendix of O'Rourke's book, entitled "An Adam Smith Philosophical Dictionary," is a collection of some of the philosopher's "adages, aphorisms, epigrams, insights, observations, maxims, axioms, judicious perceptions, and prejudiced opinions."<sup>19</sup> This selection shows us the scholar and the man, with the good and the bad things that come from being one. The last example I will give here, taken from this useful and pleasant book, is also the last entry in the "Dictionary." As the appendix is ordered alphabetically, this entry, placed under the heading "Wives," comes last in the "dictionary" and is, most certainly, a "prejudiced opinion" rather than a "judicious perception": "The fair-sex, who have commonly more tenderness than ours, have seldom so much generosity." And that is the lonely man speaking, rather than the thinker, thinking. We can just smile and return to reading *The Wealth of Nations*, if we haven't done that yet.

<sup>1</sup> James Buchan, *Adam Smith and the pursuit of perfect liberty*, Profile Books, 2007 p. 4. A short, but quite telling biography that would deserve a review of its own. A mere 140 pages, without preface, chronology or index. But writing many pages about Adam Smith is nobody's yen. Even more so when it comes to his life. Like Kant, he lived the life of a recluse. Like Proust, he dreaded illness and disease. Biographemes, in his case, are really relevant only when linked to a pattern of thinking. And this is what Buchan wants to do – find a short but very solid link between life and thinking.

<sup>2</sup> Allan Sloan, "Capitalist Punishment," *The New York Times*, January 7, 2007.

<sup>3</sup> P.J. O'Rourke at the Cato Institute. City Seminar: On the Wealth of Nations. Added to [cato.org](http://cato.org) on January 16, 2007.

<sup>4</sup> Cato Institute seminar.

<sup>5</sup> O'Rourke, P.J. *On The Wealth of Nations*. London: Atlantic Books, 2007, p. 6.

<sup>6</sup> *Ibidem*, p. 8.

<sup>7</sup> *Ibidem*, p. 15.

<sup>8</sup> *Ibidem*, p. 16.

<sup>9</sup> *Ibidem*, p. 27.

<sup>10</sup> *Ibidem*, p. 36.

<sup>11</sup> *Ibidem*, p. 37.

<sup>12</sup> *Ibidem*, 132.

<sup>13</sup> *Ibidem*, p. 133.

<sup>14</sup> *Ibidem*, p. 153.

<sup>15</sup> Quoted by O'Rourke from Ross, Ian Simpson. *The Life of Adam Smith*. Oxford: Oxford University Press, 1995, p. 310.

<sup>16</sup> *On The Wealth of Nations*, p. 169.

<sup>17</sup> Stewart, Douglas. *Collected Works. Vol. 10, Biographical Memoirs of Adam Smith, William Robertson, Thomas Reid*. Edinburgh: T. Constable, 1858.

<sup>18</sup> Rae, John. *Life of Adam Smith*. London: Macmillan, 1895, p. 435.

<sup>19</sup> *On The Wealth of Nations*, p. 197.



***UNDERSTANDING THE PROCESS OF ECONOMIC  
CHANGE, BY DOUGLAS NORTH.***  
**PRINCETON: PRINCETON UNIVERSITY PRESS, 2005.**  
**187 pp.**

Reviewed by  
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The famous American economist, Douglas North is a representative of the New Institutional Economics (NIE). He is, at the same time, a pioneer as he has identified and promoted a new direction of research within NIE which is focused on the role of the institutional framework in the process of formation and becoming of modern economies. By stating and bringing consistent and consequent arguments for the fact that „*the process of economic growth matters*”, North gives a foreword to the theory of economic dynamics in its institutional version. His ideas, exposed in two fundamental books, the former being published in 1981 (*Structure and Change in Economic History*) and the latter in 1990 (*Institutions, Institutional Change and Economic Performance*) have inspired the contributions and achievements in the field of institutional economics and acknowledged him in the academic world. In 1993, he was awarded the Nobel Prize in economics “*for having renewed research in economic history by applying economic theory and quantitative methods in order to explain economic and institutional change*”.

The paper *Understanding the Process of Economic Change*, published in 2005 is considered by the author himself as a synthesis, “*a brief review of my early*

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*work*” (p. vii), and an award for his efforts to give an institutionalist basis to the understanding of economic dynamics. Moreover, we believe that the book is a new inspired and welcomed contribution to the generous literature that approaches the NIE issue.

The book approaches the issue of dynamics of economic growth and the author proves that economic performances are mostly determined by the type and quality of the institutions that sustain the markets. North believes that the understanding of the relationship between economic dynamics and institutional dynamics will allow a better shaping of institutions that sustain economic performance. The purpose is to avoid failure that people faced and reduce the difference of development in the world economies.

The relationship between economic dynamics and institutional dynamics is signalled from the first page of the work where D. North mentions that economic change is a function of „1. *the quantity and quality of human beings*; 2. *the stock of human knowledge particularly as applied to the human command over nature*; 3. *the institutional framework that defines the deliberate incentive structure of a society*” (p. 1). The three factors are interrelated and contribute to the process of economic change which is meaningless in itself. Therefore, according to North, “*a complete theory of economic change would therefore integrate theories of demographic, stock of knowledge, and institutional change*” (*Idem*).

This is the reason why the work aims at an interdisciplinary approach which is required by the nature of the studied process itself that involves, beyond the economic dimension, man and human behaviour, institutions, experience, acquired values, the demographical, historical and social dimension, etc.

North justifies his concern for the analysis of the processes of economic and institutional change in a resuming sentence: “*the world we live in is non-ergodic – a world of continuous novel change; and comprehending the world that is evolving entails new theory, or at least modification of that we which possess*” (p. 16).

To sum up, this quotation refers to two things:

Firstly, economics, institutions, the world in its whole are moving. Consequently they have to be analysed in their dynamics.

Secondly, such an analysis requires the restructuring of what Ronald Coase calls “an economics taught in the classroom”, i.e. the neoclassical paradigm and its methodological hypotheses and principles which are inadequate to human nature and the real world. By returning to this aspect of the book and detailing it, North

has in view three fundamental deficiencies of neoclassical economics, that is, “*it is frictionless, it is static and it does not take into account human intentionality*” (p. 65).

North replies that the entire NIE proposes a “controversial” approach by integrating time in the analysis and by putting human activity under the sign of intentionality (p. 66–80).

Controversies pertain to the imperfection of the world and the opportunism in the individuals’ behaviour. This is where institutions intervene. They are called “*to structure human interaction by providing an incentive structure to guide human behavior*” (p. 66). At the same time, the stimuli are identically perceived by all individuals. Consequently, the rules are summoned to have an influence not on homogenizing behaviours, by solving controversies, but rather on attenuating opportunism.

Secondly, economic activity and dynamics are subject to the passage of time. Not to include the time variable in the analysis means taking distance from human nature and the real world as long as “(1) *we cannot know today what we will learn tomorrow which will shape out tomorrow’s actions and (2) it is a non-ergodic world*” (p. 69), according to North. The compensation for the limited (ontological and epistemological) rationality of individuals corresponds to learning and imitation.

Finally, human action bears the mark of intentionality. Man acts based on anticipations and he uses strategies to fulfil his goals. Human intentionality is not only a decisive factor in Northian analysis, but also a product of „social learning”, explaining the capacity of economics to adjust to changing circumstances.

Although intentionality is the main attribute that describes human activity, social engineering is not generally accepted to establish order. In order to bring arguments in the matter, North gives the example of the former Soviet Union and asserts that “*the rise and fall of the Soviet Union is a sobering exploration of the human endeavor to deliberately craft society*” (p. 8).

Thus North draws from Hayek’s critical rationalism by means of spontaneous order guided by the „invisible hand”. North also clearly opts for order and his initial discourse remains a principle when he accepts the variant of authority (the deliberately built order) in the context of an unsure environment which is a definite source of disorder that cannot always be consensually dealt with. He does not clearly opt for any type of order but he implies that both types

are justified in history. Hence, North, as well as the other institutionalists does not believe in absolute liberalism, he does not exclusively accept the *laissez-faire* way, as he is convinced that modern institutions do not automatically lead to balance. In this context, he sees a deliberate process in economic change that automatically obliges to institutional change.

To relate economic change to institutional change, North uses the concept of adapting efficiency (firstly introduced in the work *Institutions, Institutional Change and Economic Performance*). This aims at the institutional matrix that proves its adapting features by flexibly giving solutions to economic change. In other words, societies are permanently searching for ways to solve the problems that occur in time. This is possible due to the stimuli given by institutional structure. In Northian understanding, adapting efficiency is possible when four conditions are met: “*the establishment of credible bounds on the behavior of political officials; successful constitutions which limit the stakes of politics in part by assigning citizen rights and placing other limits on government decision making; property and personal rights must be well defined so that it is evident to citizens when these rights are being transgressed; the state must provide credible commitments to respect these rights, thus providing protection against opportunism and expropriation by public officials*” (p. 108).

Thus delimited, the aims of adapting efficiency may, on the one hand, be fulfilled only in the long term and, on the other hand, they send to the institutional matrix which includes in its whole, both formal and informal institutions, as well as their interaction. North assesses institutional dynamics to the way of interaction between formal and informal institutions. All his works imply that there is a strong interdependence between institutions. Both formal (property, free market, currency, etc.) and informal rules (customary laws, social conventions, cultural traits of behaviour, heritable values, etc.) are variables that generate growth and economic performance. This idea is present in *Understanding the Process of Economic Change* as well, where he repeats his conviction that “*there is an intimate relationship between belief systems (informal rules – n.n.) and the institutional framework (formal rules – n.n.)*” (p. 49), highlighting the power of influence of informal norms. These are nothing but “mental constructs“ by means of which individuals perceive and interpret reality. If formal institutions may be changed „over night“ by authorities, faiths, norms, values, etc. are slowly changing and they tend to be very resistant to change.

Due to the fact that human action and thought are structured by society rules in a process of selection of the experience of generations, the movement of institutional framework naturally has a certain inertial, incremental character that, in North's opinion, reflects "*the constraints that the past imposes on the present and the future*" (p. 49). In other words, there is a phenomenon called path dependence that synthetically refers to the dependence on the past and behavioural inertia. Consequently, the changes in the institutional matrix are determined by the existing institutions which, in their turn, narrow the present and future options. This is not to be understood in a determinist way of an unavoidable situation in which the past accurately predicts and imposes the future. The past has the value of a model to be followed or not that invites to learning, to what one is allowed to do or not. North seems to accept the simple statement according to which „a person, who does not know history, is likely to repeat it". A glance at the past helps us see the path to follow in order not to make the same mistakes again or points us the „source of the stoppage" on the path of evolution so as to be eliminated. However, it is up to us to find the path to follow for institutional change to have the expected effect, i.e. to induce economic performance.

In North's opinion, despite people's basic universal structure of values, there is a large variation with respect to economic performance. This feature reveals the importance of the way in which this structure of values is transposed, by means of culture, in structures that succeed or fail. He gives the example of American economy that benefited from British cultural inheritance: "*The heritage of British institutions created a favorable milieu for the development of the institutions of impersonal exchange which were the foundation of the long-term economic growth of the American economy*" (p. 112).

Thus, path dependence forces us to accept that cultural inheritance has a word to say and influences the success of the chosen solution. Consequently, there is no optimal, unique institutional variant which can be applied anywhere and anytime to guarantee economic performance. The institutional „import" (transplanting institutions that have proven the capacity to create wealth in developed societies) must take into consideration what is specific to the „importer".

Departing from such a field, North indicated the steps of a path to follow in a chapter significantly entitled "Getting It Right and Getting It Wrong". There is a thin line between succeeding and failing. In North's words, succeeding means that "*1.the implications of the novel changes would be understood with respect to the*

*effects, on the three fundamental sources of change – demography, the stock of knowledge, and institutions – and the resultant new interaction among them; 2. this new knowledge would be incorporated in the belief systems of those in a position to modify the institutional matrix; 3. the formal rules, the informal constraints, and the enforcement characteristics would be altered accordingly and would produce the desired changes in societal performance”* (p. 116–117).

Once the steps to follow have been established to reach institutional and economic performances, North gives a new example to explain what to succeed and to fail mean. The model of success alludes to “The Rise of the Western World“, and failure to “The Rise and Fall of the Soviet Union“, justified by the lack of adapting efficiency and a flexible institutional structure.

The last chapter of the book, “Where Are We Going?” brings back into discussion human nature, intentionality and individual behaviour in taking a decision. To conclude, North mentions that the economists’ efforts must be focused on “*the understanding of the sources of human decision making*”, in the context of permanent uncertainty in a non-ergodic world.

Beyond its ideal original and dense substance, the book deserves to be read because the proposed theme is in the pipeline. Here, we have two aspects in view: the former corresponds to the priorities of human society which (still!) undergoes a process of institutional change towards a genuine market economy; the latter could give solutions for the present world economic crisis.

Firstly, with respect to Romania, although progress has been made in building institutions that promote the idea of a free market, the quality of the institutional environment is still sensible and remains a challenge for what Daniel Dăianu called “the bet with development”. By employing the terminology and explanations given by D. North, we may say that *institutional frailty* which is mentioned by a series of specialists in transition may be asserted to a high level of path dependence and behavioural inertia that damages the process of learning, imitation and experience. Therefore, after two decades of transition, Romania is still low ranked among the EU countries, with lower results than other post-socialist countries in the charts for institutional quality and economic competition.

Secondly, the world is changing. The present world crisis obliges to a reconsideration of both theory and economic policy and the old-fashioned „rules of the game” which do not seem to offer proper solutions to the new realities any more. We mainly refer to the fact that the crisis affecting the economy of the

United States clearly proves that an economic model and mechanism may have the stock market as its main piece of the puzzle and speculation on the field of nominal economy as a growth generating factor which involves too greater risks and should not be followed. From the point of view of economic doctrine and policy, the present moment reinvents Keynes and Samuelson. Ergo the perimeter of US economy, one of the most liberal in the world, calls for the state and its institutions, especially the financial ones. But trust is a formal institution that significantly contributes to the efficient running of the market and democracy. Consequently, there is a lack of consensus between formal and informal rules which, as North stated, is one of the essential conditions for the process of institutional change to succeed.

The above mentioned aspects and many others in the book which have not been mentioned here are sufficient arguments for reading this book. Transgressing the borders of economics, the book offers a different perspective which cannot be found in the standard textbooks of economic theory on the way to perceive and interpret the world we live in and its evolution. It is impressive for the economist reader – although the book does not entirely address him – due to the richness of ideas or the interdisciplinary vision and especially due to the pleading for such a solution to the problems of economic development that many of the world countries are facing.



***THE EUROPEAN ECONOMY SINCE 1945:  
COORDINATED CAPITALISM AND BEYOND,***  
**BY BARRY EICHENGREEN.**  
**NEW JERSEY PRINCETON, 2008. pp 495**

Reviewed by  
Nicoleta VASILCOVSCHI\*

**Motto: “Europe today could not be more different from Europe  
fifty years ago”**  
Barry Eichengreen

There could be a multitude of different perspectives for describing an economic phenomenon. The author Barry Eichengreen offers a complex description of the European economy, by reviewing it starting from 1945 until today. Barry Eichengreen describes in detail the form and evolution of the European economy, its growth and specific features. The author creates his unique approach to describing economic phenomena and looks at the most important events of the post-war period until our days.

Eichengreen presents in the 13 chapters of his book how European economy after 1945 was built and how the future of this field could be understood. The book is not just a short presentation of important global transformations, but also of the instability of the Great Depression. From the beginning the author talks about the

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instability and crisis of the 20s and 30s, and also about the technical revolution of the time.

He supports the idea that the year 1945 was a “jumping-off point for the European economy” (Chapter 1, p.3). The author considers European integration a part of globalization. Chapter 1 presents the evolution of the European economy since 1945 and East European economic transition from planned to market economy. In chapter II we can find a short description and table of economic growth in Europe from 1820 until 2000. So, we are given a short summary: “Aggregate gross domestic product (GDP) show that Western Europe grow more than twice as fast from 1950 through 1973 as is did over the whole of the nineteenth and twentieth centuries” (Chapter 2, p.15). Chapter III continues with *the postwar situation*, the reconstruction, the Monnet Plan, “the ambitious modernization program rolled out by French government in 1946, emphasized investment in transportation, energy, and iron and steel” (Chapter 3, p.59). In the post-war reconstruction period the priority was given to heavy industry. Describing Marshall Plan, the author believes that it reflected the conflict between Eastern and Western European countries. In Eastern Europe, the economy was centrally planned and in Western Europe the reconstruction was guided by the market. The 50s were representative for economic progress in Europe. The author insists on presenting the impact the adoption of American technologies had on Europe and the big transformations of those times.

“Investment in the commercialization of American technology and the adoption of mass production” (Chapter 4, p. 129) was a principal point of growth in Europe. The author tries to present the cause of the rapid growth of exports in 1950 and 1960 and he argues that it was due to growth objectives imposed by institutions of that time. From this perspective, he offers some examples of institutions and explains that cooperation played a key role. He argues that the European Union was important for the European trade. In Chapter II, *The End of the Golden Age*, the author describes the delicate context between 1960 and 1970 and presents the *Single Market Programme* of 1986. We can also find a description of the postwar situation and an analysis of the economy of West European countries after the war. The author believes that Germany was the economic centre of Europe and makes a short presentation of the political economy behind the Marshall Plan. He considers that the main objective of Marshall Plan was to encourage European integration. The author also analyzed planned economy in Eastern Europe and the problems of

central planning. These were not due to *Schumpeterian pressure* „that forced firms to innovate” (Chapter 5, p. 154).

The book is also worth reading because it shows the author’s talent in presenting all aspects of European economy. He begins by describing the situation in West European countries and continues by analysing the situation in East European countries under planned economy. He presents the strategy behind central planning and its problems. He discusses all steps of integration of Western Europe, from the initial steps to the British Dilemma, the Luxembourg Compromise and the Common market.

The writer makes a very good analysis of different problems which include Italian crisis in 1965, with the current deterioration and the consequences of this problem. In presenting Britain’s problems, he describes the central problem in the balance of payments. A short presentation of the French Crisis and the German Response shows the situation in France in 1969 and Germany’s help stabilizing the monetary system in France.

The author suggests that, by means of the Bretton Woods system, the maintenance of the control of capital was necessary; the author describes in detail the reason for the existence of this system and its termination. In this context, he underlines the European Response pointing out that the instability of the *Monetary Snake* shows the fact that “the 1970s was a low point for European cooperation” (Chapter 8, p.250). In analyzing unemployment, accelerating inflation, declining productivity in Europe, the writer tries to answer the next question for European societies: “Would they attempt radical reforms in order to meet the imperatives of the new era of intensive growth, or would the institutional inheritance prove resistant to rapid change?” (Chapter 9, p.293). Then in Chapter 10, he looks at the central planning, the collapse of communism, the transition of the Eastern European countries, their reconstruction and development. He also presents German reunification. In chapter 11, integration is seen as the transformation of Europe into “an integrated economic space” (Chapter 11, p. 377). In the last two chapters, the author describes the situation of European economy in the 21<sup>st</sup> century. He tackles problems of unemployment and tries to predict the future of the European Model.

I believe that in 495 pages of the book, readers can find the most important information on the European economy and its evolution since 1945. This book offers a comprehensive and graphic picture of economic growth in Europe. Thus, I

believe, this book is a state-of-the art model of analysis of the European economy and it is worth reading by those interested in this matter and trying to understand the European Economy and its evolution.