

A STUDY ON HONG KONG CREATIVITY INDEX

Interim
Report

November 2004



Commissioned by the
Home Affairs Bureau,
The Government of the Hong Kong Special Administrative Region

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Executive Summary

Objectives of the HKCI

- In 2004, the HKSAR Government commissions the Centre for Cultural Policy Research of the University of Hong Kong to devise a framework for the Hong Kong Creativity Index (HKCI).
- Objectives of the study:
 - ◆ demonstrate the multifaceted manifestations of creativity in a society
 - ◆ illustrate the interplay of various factors that contribute to the growth of creativity
 - ◆ assess the macro socio-economic and cultural conditions that harness creativity or impede the growth of creativity in our community
 - ◆ there exist many economic indicators/indices, yet not a comprehensive index/indicator measuring the creative vitality of an economy in the Asian region, amidst the growing importance of knowledge-based economy and the increasing influence of globalisation on individual economies, hence a need to
 - ◆ construct an indexing system, which could serve as:
 - criterion for assessing the creative vitality of Hong Kong
 - an integrated indicator for sustainable growth in the creative sector of the Hong Kong economy
 - a reference for overall policy-making and the decision-making for investment, traveling and residence in Hong Kong
 - a basis of international comparison

Building Blocks of the HKCI - 5Cs

- Building Blocks of the HKCI - 5Cs
 - ◆ The HKCI builds on “5Cs”
 - ◆ manifestations of creativity
 - ◆ structural/institutional capital
 - ◆ human capital
 - ◆ social capital
 - ◆ cultural capital
- The four forms of capital are mutually reinforcing.
- They are multifaceted and dynamic determinants of the growth of creativity.
- Accumulated effects of these determinants are the variegated outcomes of creativity.

Manifestations of Creativity

- Creative activities generate not only economic outputs, but also outcomes shared and transacted among the populace.
- Economic outputs stand for the growth of creative economy, but other inventive outcomes present the vitality and vibrancy of creativity in a place.
- Our framework measures
 - ◆ “economic contribution”
 - ◆ “inventive activity of economic sector” and
 - ◆ “non-economic returns” of creativity
- For instance, economic contribution of creative industries and the SMEs, productivity growth of an economy, number of patents per population, numbers of arts and cultural programs presented, etc.

Measuring Structural/Institutional Capital

- There are some conditions that provide the context in a community where creativity takes place.
- These conditions also determine the conditions of utilization and distribution of other forms of capital.
- We measure six types of societal conditions that are contributors to the growth of creativity in a community:
 - ◆ Legal system
 - ◆ Freedom of speech
 - ◆ International commitment to cultural development
 - ◆ ICT infrastructure
 - ◆ Social and cultural infrastructure
 - ◆ Entrepreneurship and financial structure

Measuring Human Capital

- Human capital is crucial for the growth of economy.
- High mobility of human capital will facilitate cultural exchange, transfer of skills and knowledge as well as generation of new ideas in society.
- Our “Human Capital” framework measures two sets of conditions in support of human capital development:
 - ◆ the extent of a community to provide a favorable context for the development of “knowledge bank”.
 - *possible indicators* may include R&D investment, higher educational attainment of working population, etc.
 - ◆ mobility of human capital and population
 - *possible indicators* may include the numbers of transient population in terms of mobile working population, foreign workers and students studying abroad. Other indicators may include number of arrivals and resident departures as well as emigrants.

Measuring Social Capital

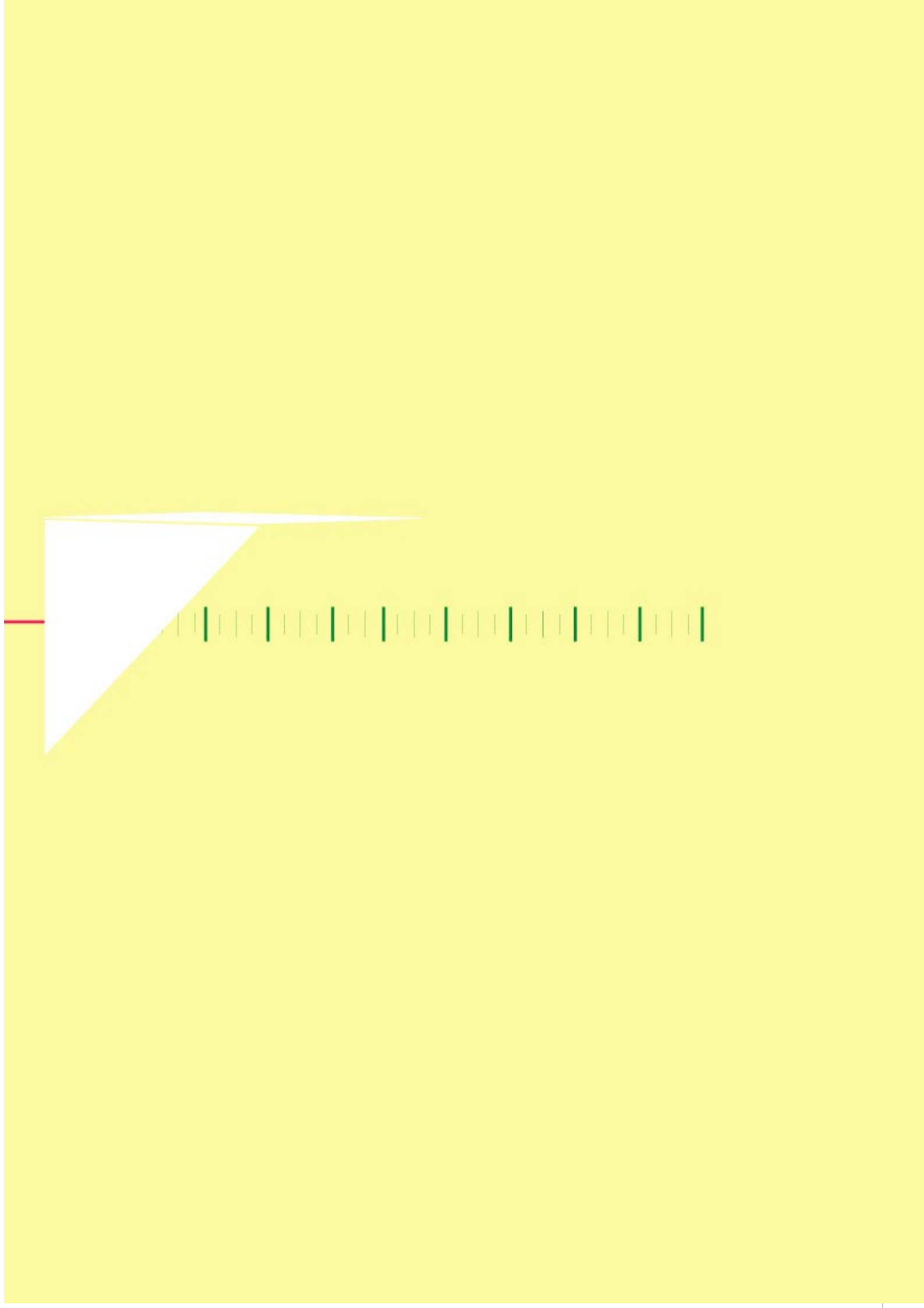
- While technology and talent are indispensable assets of a creative economy, whether a city has a social milieu which attracts, mobilizes and sustains creativity is equally important.
- Social capital, in terms of trust, reciprocity, cooperation and rich social networks are conducive to the enrichment of collective well-being, social expression and civic engagement. All these in turn enable individual and collective creativity to flourish.
- We measure therefore nine aspects of “social capital”, including:
 - ◆ Generalized trust
 - ◆ Institutional trust
 - ◆ Reciprocity
 - ◆ Sense of efficacy
 - ◆ Cooperation
 - ◆ Attitudes towards minorities
 - ◆ Espousal of modern values
 - ◆ Self-expression, and
 - ◆ Participation in social activities
- We also collect data on corporate and private donations as well as public sector’s expenditure in social welfare, indicating the levels of resources available for social capital development.

Measuring Cultural Capital

- We also believe a social environment conducive to cultural participation produces new ideas and expressions and hence enhances creativity in a broad sense.
- In our study, cultural capital refers to the more specific activities and qualities relating to culture, art and creativity in everyday life.
- We measure three broad aspects of cultural capital in a community:
 - ◆ public sector's and corporations' resources commitment to the development of arts and culture.
 - ◆ measures of cultural norms and values placed on creativity, arts, art education and intellectual property rights protection.
 - ◆ measures of the extent and level of cultural participation in a community.
 - *Possible indicators* may include public expenditure on arts and culture, attitude towards arts and culture in general, or art education in specific as well as the participation rate of general population in different forms of cultural activities.

Deliverables of the HKCI Study

- The HKCI comprises an overall ranking and five composite indices corresponding to the "5Cs", equally weighted.
- The index will become a precursor to show the overall status and underlying features of creativity in a community.
- The index will demonstrate a community's relative strength in socio-economic and cultural conditions that are favorable for the growth of creativity.
- The HKCI provides a database for the further development of the creative society, and meanwhile, it highlights the needs of collecting new data, which could be regularly presented in our national accounts, social and cultural statistics.
- The index will be compiled regularly so that the growth of creative vitality can be assessed over time, as well as compared with other major cities in Asia.



I INTRODUCTION

1 Background of Study

- 1.1 The Study on Hong Kong Creativity Index (the Study) is commissioned by the Home Affairs Bureau of the Government of the Hong Kong Special Administrative Region (HAB). The Hong Kong Creativity Index (hereinafter referred to as the HKCI) will be used to assess and monitor Hong Kong's competitiveness in the creative age over time as well as for the purpose of comparing its creative vitality with its neighbouring regions and major Asian cities. The methodology can be adaptable and applicable to the neighbouring regions and other major Asian cities at a later stage.
- 1.2 The Study serves the following purposes:
- (a) As criteria for assessing the creative vitality of Hong Kong.
 - (b) As an integrated indicator for sustainable growth in the creative sector of the Hong Kong economy (as measurement for the impact of the creative sector on overall economic development).
 - (c) Prepare a database for the further development of the creative sector in Hong Kong.
 - (d) As an integrated indicator for the government's reference in overall policymaking on the development of the creative sector in Hong Kong.
 - (e) Provide data and advice for government bureaux/departments in improving policymaking and policy implementation, facilitate the assessment of achievements and strategic planning, and enhance the understanding of the current status of the creative sector in Hong Kong.
 - (f) Assess the effectiveness of government's support on the creative sector in Hong Kong.
 - (g) As a reference for the decision-making for investment, traveling and residence in Hong Kong.
 - (h) As a basis of comparative study for Hong Kong with its neighbouring regions (such as the Pearl River Delta) and major Asian cities.

1.3 The scope of the Study is to cover the following -

- (a) Research on International Creativity Indicators
 - i Study the current state of creativity indicators used internationally and in the neighbouring regions.
 - ii Advise on the adaptability of the indicators in Hong Kong as well as in neighbouring regions and major Asian Cities.
- (b) Review of researches/studies relevant to the creative sectors in Hong Kong as well as in the neighbouring regions and major Asian cities
 - i Review researches/studies relevant to the creative sectors in Hong Kong
 - ii Review researches/studies relevant to the creative sectors in neighbouring regions and major Asian cities.
- (c) Consultation with experts/advisors in the creative sectors
 - i Consult experts/advisors in the creative sectors in or outside Hong Kong in devising the actual methodology used.
- (d) Devising the actual methodology used
 - i Finalising the actual methodology used in consultation with and subject to approval of HAB.
 - ii Give a working definition for the creative sector in Hong Kong applicable to this study.
 - iii Compile a list of indicators constituting the HKCI, taking into account the creativity indicators used internationally and the results of researches/studies relevant to the creative sectors in Hong Kong as well as in the neighbouring regions and major Asian cities. The Creativity Index compiled is to be applicable to the neighbouring regions and other major Asian cities at a later stage.
 - iv Study the availability of data sources related to the compilation of creativity indicators.
- (e) Compilation of Creativity Index
 - i Perform data collection work
 - ii Compile HKCI/Sub-Indices

2 Perception of the Problem

Globalization and Competitiveness

- 2.1** Globalisation has an impact on social and economic transformation in most of the city economies of the world. Legions of socio-economic processes now taking place in many world cities - such as the vibrant movement of international capital, ever-increasing mobility of talents and corporate workers, greater need for innovative and specialised services, and the interwoven and dynamic networks that connect the local to a wider geography of global markets - confirm this general premise. World cities now face formidable economic challenges in the global economy. They need to sharpen their own edges by offering distinctive products and creative services to the world market and to position and re-position themselves in the world economic chain of production. Meanwhile, they are eager to attract talents and foreign capital for sustainable economic development. The crux of these challenges is to maintain their own “competitiveness” in a more integrated and competitive world
- 2.2** With the advancement of globalisation, the economy of a world city has developed from a service-based to a more specialised and knowledge-based economy in the past few decades. The rising “creative industries”, which deploy intellectual property and creativity for generating wealth and employment, are just an illuminating and compelling phenomenon of the changing economic structure of cities. From a broader perspective, there are many indicators - including the increasing portion of knowledge workers in the total working population, the general enhancement of educational qualification, increasing activities of scientific and artistic research or the more conducive environment in favor of innovation - that may reflect the ongoing development of a city’s competitiveness. These changes, no matter in terms of the rising industry sector or the importance of human capital in promoting economic development, pinpoint the ever-changing nature of the servicing economy of world cities.
- 2.3** Hong Kong has earned a distinctive position in the economic map of the world. The urban economist Saskia Sassen has cited our city as one of the international financial centres, whose specialised operations in global capital market will likely be strengthened in the digital era.¹ In 2004, Hong Kong was named the world’s freest economy for the tenth consecutive year by the Heritage Foundation/*Wall Street Journal’s* “Index of Economic Freedom”. Its GDP per head in 2002 accounted for US\$ 26,760, indicating that the city’s capacity in producing wealth was ranked second highest in Asia only after Japan.²

1 Saskia Sassen (1999), chapter 5.

2 Economist Intelligence Unit (2003), *Country Reports*.

2.4 Conventional measurements like those mentioned above for evaluating Hong Kong's position in the world economy are particularly useful in reviewing the city's macro economic environment and its long-term growth. These indicators refer to the GDP, annual economic growth, amount of public expenses, foreign-exchange reserves, cost of living or unemployment rate, or the economic competitiveness of Hong Kong among world cities. However, they are far from adequate to reveal the changing nature of the underlying forces on which the city's economy relies - "knowledge", "information" and "creativity" - different forms of intangible assets that a city could capitalise for its economic growth in the age of globalisation.

Creativity as Index for Measuring HK's Competitiveness

2.5 One may expect that, as Hong Kong's economy grows more complex, there is a strong demand for developing a conceptual tool that enables us to capture the fundamental characteristics of its economic development in recent years and in the future. In addition, the tool should also be able to demonstrate the dynamic relationship between the city's economic vitality and its competitive cores. In short, in devising or collecting a set of indicators to measure Hong Kong's creativity, one should consider:

- i that the indicators shall reveal the emerging economic nature of world cities (such as "knowledge-based" or "information-based" economic structure);
- ii that the indicators shall pinpoint the competitive cores that contribute to the development of world cities;
- iii that the indicators shall reveal the relevance of creativity and creative industries to the development of world cities;
- iv that the compilation of indicators shall build on the recognised benchmarking of international indices so that the results could be compared with international standards; and
- v that the indicators are applicable to neighbouring regions and other major Asian cities.

2.6 In sum, the Hong Kong Creativity Index should not only reflect the on-going development and ever-changing nature of world cities, but also demonstrate a more focusing comparison on the competitiveness of world cities in the age of the knowledge-based economy.

3 Methodology

Precedent Studies

- 3.1 There are some existing studies on Creativity Index that may be useful and relevant to our proposed investigation. Of these two are particularly worthy of mention: Richard Florida's pioneering work *The Rise of the Creative Class* (2002) and his subsequent collaboration with Irene Tinagli on *Europe in the Creative Age* (2004), as well as the *Creative Community Index* (2002) directed by John Kreidler of the Cultural Initiatives for Silicon Valley.
- 3.2 We will examine Florida's work in more details in Chapter II, 2 and give only a brief explanation here: Florida argues that a place's competitiveness could be found in its capacity of promoting innovation, attracting talents and maintaining conducive environment in favor of creativity. In *The Rise of Creative Class*, he compiles a "Creativity Index" based on the combination of the following: the "High-Tech Index", "Innovation Index", a measure of the size of the "Creative Class" and the "Composite Diversity Index" (this last one includes the sub-indices of "Gay index", "Bohemian index", "Talent index" and "Melting Pot index").³ In an updated work collaborated with Irene Tinagli (2004), Florida articulates a "Euro-Creativity Index" by extending his previous framework to the European context. The "Euro-Creativity" comprises two indices - the "Technology Index" and "Talent Index" compiled in a similar fashion to those in *The Rise of Creative Class* - and a third new category, the "Tolerance Index", which is constructed and applied to the European context.⁴
- 3.3 Besides being a composite index of the Euro-Creative Class Index, which measures the population size of creative workers in 13 EU nations, Florida's Euro-Creativity Index comprises the sub-indices of the "3Ts" - the "Euro-Talent Index", "Euro-Technology Index" and "Euro-Tolerance Index". The Talent index measures two factors, including the population of degree holders and the number of research scientists and engineers while the Technology index measures the number of patent applications in a country and R&D expenditure as a percent of GDP. Finally, the Tolerance index measures values and attitudes derived from the findings of the "World Values Survey" conducted by Ronald Inglehart (2000).

3 Richard Florida (2002), Appendices A and B.

4 Due to unavailability of data in Europe, the Euro-Tolerance Index differs from the "Composite Diversity Index" adopted in Florida (2002); see Florida and Tinagli (2004): 25-27.

- 3.4** Comparable data about the population size of creative class, human capital and R&D expenditures could also be found in the existing database of the Hong Kong Census and Statistical Department. Therefore, the key components of Florida's framework are adaptable to the construction of a Hong Kong Creativity Index.
- 3.5** However, the third T raised by Florida - Tolerance Index - though innovative and important for a study of this nature, is quite difficult to construct. The index captures the less tangible but crucial aspect in assessing the creative edge of a world city. It has now been widely acknowledged that while technology and talent are indispensable assets of a creative economy, whether a city has a cultural milieu which attracts, mobilises and sustains creativity is equally important. Florida's study made use of the findings of the World Values Survey to construct an index which taps and compares selected European nations' value preferences concerning diversity, openness and self-expression. The resultant scores reveal that a high level of 'tolerance' is closely associated with other indices on talent and technology as well as the overall economic dynamism of a nation.
- 3.6** We will develop a similar version of a "Tolerance index" for measuring Hong Kong's performance and potential in this respect. There are various existing studies in Hong Kong which tap related issues of people's values in terms of diversity, tolerance and self-expression, most notably studies on the continuing series of social indicators jointly conducted by three local universities since 1988.⁵ However, to ensure the international comparability of the 'Tolerance index', we need to build a more consistent set of instruments to measure the values of Hong Kong residents.
- 3.7** We plan to draw on the World Values Survey to devise a set of format and questions pertinent to our local conditions. Because comparable local data of such nature and rigor are absent at the moment, we need to conduct a fresh survey to gauge these values among local residents. The results from the survey will help us construct and calculate a "Tolerance index" that serves as a baseline for assessing the potential of Hong Kong in sustaining a cultural environment to attract and mobilise creative talents. The index will also shed light on how Hong Kong compares with global competitors in the long run.

5 Lau Siu Kai et al (1988-2003) and also <http://www.cuhk.edu.hk/hkiaps/INDICA/soc5.htm>.

3.8 Towards this end, we will carry out a fact-to-face territory-wide survey of around 1, 200 residents of Hong Kong, gauging their values on a range of issues regarding diversity, openness and self-expression. We have liaised with the World Values Survey team headed by Ronald Inglehart at the University of Michigan to make use of their questionnaire and to access the relevant data. The results can be directly compared to highly similar data sets for the 65 nations/places (including those in the Asian region) under the rubric of the World Values Survey as well as the Euro-Creativity Index produced by Florida and Tinagli.

Refinement of Models

3.9 We propose to improve on Florida's framework and to extend his scope of indicators by comparing with other international benchmarks on competitive and creativity indices. The study will scrutinise the components of the Hong Kong Creativity Index and endeavor to enrich the components so as to enable it to reflect more accurately the vitality, pervasiveness and dynamics of creativity in our city economy.

3.10 The World Economic Forum's (WEF) "Global Competitiveness Report" (GCR) and "Global Information Technology Report" (GITR) have devised different analytical frameworks in examining the competitiveness of individual countries. These analytical frameworks will also be useful for setting up the Hong Kong Creativity Index. The GITR, in particular, constructs a "Network Readiness Index" to examine a country's pace and development towards information society. Apart from these studies, the Asia Pacific Economic Co-operation (APEC), the Organisation for Economic Co-operation and Development (OECD) and the UNESCO have in recent years articulated qualitative and quantitative models for measuring and monitoring the world trend of "new economy", "information economy", or the "information and knowledge societies".⁶

3.11 These references on information or knowledge economy would be highly relevant to our discussion about the Hong Kong Creativity Index. We will examine: i) how these different reference frameworks would shed light on the nature of Hong Kong's changing economic structure, and ii) how they supplement each other to delineate the possible scope and the architecture of a Creativity Index.

3.12 Moreover, Florida's Euro-Creativity Index can be further improved by adding new indicators or sub-indices, which are more relevant to reveal the economic and socio-cultural parameters of the creative sector in a society. For instance, the Euro-Creativity Index has computed the rating of creative class as one of the key components, but it does not give any rating to the value of creative or cultural industries.

⁶ APEC (2002), *The New Economy in APEC*; OECD (2002), *Measuring the Information Society*; UNESCO Institute for Statistics (2003), *Measuring and Monitoring the Information and Knowledge Societies: A Statistical Challenge*.

Nevertheless, these rising industry sectors are so important to the formation of a creative economy in a society, and therefore their shares of national economy should be duly reflected in the Creativity Index.

- 3.13** Recently, the regional headquarters of UNESCO in Bangkok has embarked on a study to develop a new set of indicators for measuring the “drivers” of cultural industries for Asia and the Pacific.⁷ The UNESCO indicators will consist of a set of drivers in relation to human capital (such as general education level, education and vocational training in creative skills and professions, creative manpower, etc.), technological development (such as innovative capability, availability of information infrastructure, etc.), market demand (such as purchasing power of the population, use of creative goods and services by other sectors’ production, domestic consumption patterns and exports) and infrastructure (including legal, institutional and financial).
- 3.14** There are other factors that could be turned into meaningful indicators for benchmarking the vitality and vibrancy of creativity in a city economy. As Charles Landry suggests, the “cycle of creativity” involves more complicated issues and elements that cannot be adequately and clearly reflected in educational qualifications. In depicting the cycle of creativity, Landry mentions a five-stage cycle from “enhancing ideas-generating capacity”, “turning ideas into practice”, “networking and circulating ideas”, “building platforms for delivery” to “disseminating ideas to markets and audiences”.⁸ At each stage, the access to and availability of institutional supports (such as family, schools and community, etc.) and cultural values and resources (such as heritage assets, cultural beliefs or practices, etc.) could significantly promote and sustain creativity in a place. The challenge of this study is to capture the characteristics of these socio-cultural parameters that are contributory to the growth of creativity and to operationalise them in quantitative terms so that they could form part of the Creativity Index.
- 3.15** The “Creative Community Index”, suggested by the Cultural Initiatives Silicon Valley, pinpoints the value of cultural infrastructure, social connectedness and cultural participation as well as cultural policies and investment in promoting and sustaining creativity. The “Creative Community Index” is largely compiled on the basis of opinion surveys that measure how the arts and culture operate in Silicon Valley and contribute to the business and technological innovation of the place.⁹
- 3.16** Finally, there is also relevance from the work of Colin Mercer, whose on-going research in constructing a full set of cultural indicators for Hong Kong cannot be ignored in considering a HK Creativity Index.¹⁰

7 The Director of CCPR of HKU is personally involved in this study.

8 Charles Landry (2000): 224-5.

9 Cultural Initiatives Silicon Valley (2002), *Creative Community Index: Measuring Progress Toward a Vibrant Silicon Valley*.

- 3.17** Once the scope and key components of the HK Creativity Index have been devised, the study will compare the proposed Index with other indicators that have been adopted to review the creative sectors in the neighbouring regions and cities.
- 3.18** The study will examine relevant studies on creative sectors and creative/cultural industries in neighbouring regions and cities, including e.g. a recent study entitled “Economic Contributions of Singapore’s Creative Industries”, in which the Ministry of Trade and Industry of Singapore has devised a benchmarking scheme (with 9 indicators) to compare the “creative capabilities” of Australia, Hong Kong, Singapore, Britain and the United States.¹¹ Although some of these studies on city competitiveness differ from the one focusing on creative economy, they from time to time provide useful information to devise a regional framework for comparison.
- 3.19** Our study endeavors to create a Creativity Index that serves to reveal Hong Kong’s performance and potential over the years. It could form a basis for international and regional comparisons and further applications. We are to carry out each part of the study by i) collating existing indices, constructing new index, collect documentary data according to the new composite/enriched index; ii) by liaising with World Values Survey Team, constructing questionnaire, conducting survey, analyzing results and feeding them into our Hong Kong Creativity Index; and iii) by performing score calculation, international and regional comparisons if possible.

¹⁰ Colin Mercer’s participation in the “Hong Kong Arts and Cultural Indicators” is duly noted. His research can be found in Colin Mercer (2002), *Towards Cultural Citizenship: Tools for Cultural Policy and Development*. It should be noted that one of our team members is part of the study team for the ongoing research project “Hong Kong Arts and Cultural Indicators” commissioned by the HKADC.

¹¹ Toh Mun Heng, Adrian Choo, Terence Ho and Economics Division of Ministry of Trade and Industry (2003). *Economic Contributions of Singapore’s Creative Industries*. Other studies to be reviewed include: *A Blue Book on Shenzhen’s Cultural Development in 2003* (2003) and the two-volume study of creative cluster in Australia. Besides, there are growing studies on the competitive edge of cities in China, among which is *An Economic Development Bluebook of Shanghai: The Creative City* (2004).

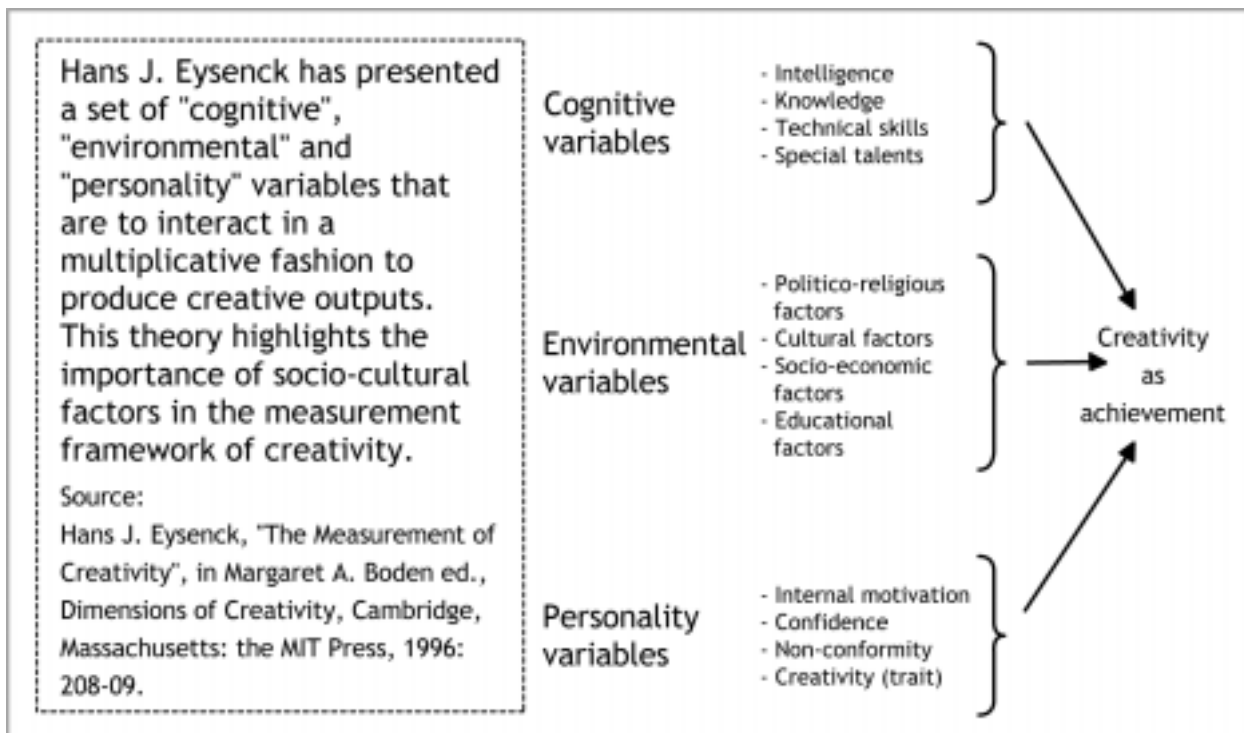
II Measuring the Creativity of a Society

1 Creativity and Society

- 1.1 Creativity is central to human activity. As a core ability of mankind, it has been and continues to be our intangible asset to create something new, *innovative and valuable*. Creativity has been a subject of research to psychologists, sociologists and cultural theorists who are interested in studying the origins of the creative mind and creative activities particularly within the domains of art and culture (M. A. Boden, 2004). Recently there has been growing interests among economists in the research of creativity and a growing body of literature in which creativity is viewed as generator of innovation and source of entrepreneurship (Nelson and Winter, 1982).
- 1.2 The discourse in creativity has even gone beyond academic research and entered into the policy-making agenda of national and global importance. International organisations and policymakers in the public sector have placed increasing concern on the changing structure of the global economy where creative products and services form substantial portions of international trade. In addition, the rise of the creative economy or the creative sector in individual countries has become a noticeable phenomenon (UNESCO, 2000; Howkins, 2001). In summary, creativity has been recognised as an economic driver for generating wealth and employment, sustainable development of world cities, technological changes, business innovation and enhancement of competitiveness of individual cities and countries (Landry, 2000; DCMS, 2004, 2002, 2001).
- 1.3 Creativity is present undoubtedly in many aspects of human life. What seems novel to us in this recent craze on creativity, as Howkins says, are perhaps the rediscovered relationships of creativity in economic production, scientific and business innovation, personal and social development as well as a wide range of socio-economic aspects, which would shed light on how we live in the 21st century.
- 1.4 There is a strong demand among both developed and developing countries for devising analytical tools to measure a country's, city's or community's creativity. A new frontier of research has thus been opened, and more dedicated efforts are required in developing new indicators to evaluate the changing nature of society and to examine different development paths of individual societies.

1.5 Contrary to the common assumption that creativity is a spontaneous activity that happens inside our brain while activities such as handling tools, exchanging ideas in discussion or acquiring and transforming domain knowledge are peripheral to the “internal mental process” (Bryan Lawson, 1980), creativity takes place indeed in the interaction between a person's thoughts and a socio-cultural context (M. Csikszentmihalyi, 1996). Interaction with other people, institutions and societal structures that embody knowledge and resources are therefore important contributors to the creative act.

Figure 1



1.6 The fact that creativity lives in a social context and its manifestation takes multiple forms pinpoints two salient features of creativity. First, creative activities take place in a context where social interaction is part of the process harnessing or barring creativity. That means various social, cultural or institutional factors could be contributors to the growth of creativity. Second, creativity is not a relative value, but something that could be established by external standards recognised by the community. Creativity shown in economic production and in cultural domains, for example, could be valued and appreciated by the community while creative innovation in science or human science could be recognised by the scientific and academic communities. This means “social creativity” is measurable and quantifiable although “daily-life creativity” is a general ability found elsewhere in our life but difficult to measure.

1.7 From an economic point of view, although one may argue that creativity is a measurable social process, it is not clear how the relationships between creativity and socio-economic development could be established. In particular, to what extent creativity contributes to economic growth, and how far enhancement of creativity comes with social and cultural configurations in society are the topics yet to be studied.

2 The Pioneering Model of Richard Florida

2.1 In 2002, Richard Florida articulates an entirely new framework for evaluating a creative economy in *The Rise of the Creative Class*. In this pioneering work, Florida pinpoints the rise of creative economy and the changing class composition that have transformed the American society from the 1950s to 2000. His key finding highlights the emerging pattern of geographic concentrations of the creative class in individual regions. According to his “creative capital theory”, the centres of the creative class are “more likely to be economic winners”, who succeed in generating high-end jobs and economic growth, thus further enhancing the regional advantage of the individual regions.¹² His theory in explaining regional economic growth builds around the “3Ts” - Technology, Talent and Tolerance - which argues that creative people prefer places “that are diverse, tolerant and open to new idea”, and that the presence and concentration of creative capital in a region “in turn lead to higher rates of innovation, high-technology business formation, job generation and economic growth”.

2.2 In practical terms, the 3Ts of economic development are measured by a set of indices to reflect the relative concentration of high-tech industries and the creative class in an area as well as to demonstrate the openness and diversity of a place, which include:¹³

- ◆ Measurement of “**Technology**” comprises two indices - the “Innovation Index” and “High-Tech Index”. While the first index selects a simple indicator (patents granted per capita) to reflect the innovative power of the population, the “High-Tech Index” measures both the size and concentration of a cluster of technology-related industries in a region (such as software, electronics, biomedical products and engineering services).
- ◆ Measurement of “**Talent**” uses the percentage of the population with a bachelor’s degree or above to reflect the presence and concentration of human capital in a region. Besides, relative concentration of the creative class in a region is measured by counting the number of creative class defined on the basis of major occupational categories.¹⁴

12 More elaborate analyses can be found in Chapters 13 to 14 of *The Rise of the Creative Class*.

13 Ibid., Chapter 14 and Appendix A. Another reference of Florida’s thesis on the relationships between bohemia, human capital and high-technology industry is found in “Bohemia and Economic Geography”, *Journal of Economic Geography*, 2 (2002): 55-71.

- ◆ “Tolerance” is measured by a “Composite Diversity Index” which combines the “Gay Index”, “Bohemian Index” and “Melting Pot Index”. The Gay Index measures the over- or under-representation of coupled gay population in a region as an indirect measure of the openness and social tolerance of a given region. The Bohemian Index counts the relative population of artistically creative people in a region. It intends to provide a direct measure of producers of cultural and creative assets in an area and presupposes that the presence of this group of creative people stands for the diversity in lifestyle and robustness of creative activities. The Melting Pot Index measures the relative percentage of foreign-born people in a region. The last index is another means to measure the openness towards immigrants or outsiders in a region, whose coming can be regarded as a new driver of economic growth.

Highlights of Florida’s Findings

By employing these indexing tools, 268 regions in the United States are ranked in terms of the “Technology Index”, “Talent Index”, “Tolerance Index”, and an overall rank (“Creativity Index”) is given to each region, which combines the first three indices with the measure of the creative class. For instance, among the 41 regions with over 1 million in population, San Francisco ranks highest in the “Technology Index” and “Tolerance Index” and fifth in the “Talent Index”. San Francisco also gets the highest score in the overall ranking of the “Creativity Index”.

Source: Richard Florida, *The Rise of the Creative Class*, 251; for a full list of Florida’s ranking, see Appendix 1.

- 2.3 In a recent work, Florida and Tinagli apply the “3Ts” framework to the European context (Florida and Tinagli 2004). The study develops the “Euro-Creativity Index” (ECI) based on the analytical framework advanced in *The Rise of the Creative Class* and compares 14 European, Scandinavian and Nordic countries with the United States. Although measures of the “3Ts” in the European context differ from the indicators in *The Rise of the Creative Class*, the central tenet of the Euro-Study keeps the key argument that competitiveness of a country relies on its ability to attract, retain and develop creative people.
- 2.4 Composition of the ECI differs significantly from the “Creativity Index” advanced in *The Rise of the Creative Class*. The following table summarizes the composing indicators of the ECI.

14 In defining “the creative class”, Florida includes two groups of occupational categories based on the census data. The first group, “Super-Creative Core” includes computer and mathematical occupations, architecture and engineering occupations, life, physical and social science occupations, education, training and library occupations and arts, design, entertainment, sports and media occupations. The second group, “Creative Professionals” includes management occupations, business and financial operations occupations, legal occupations, healthcare practitioners and technical occupations and high-end sales and sales management; op. cit. Appendix A.

Table 1 Indicators of the Euro-Creativity Index

Indices	Measurement (Notes)
Euro-Creativity Index	Sum of the scores of the following sub-indices
Euro-Talent Index	<ul style="list-style-type: none"> <li data-bbox="568 309 1407 421">☐ Creative Class: Measure of creative occupations (drawn from the International Labor Organization database for European countries) <li data-bbox="568 427 1407 499">☐ Human Capital Index: Measure of the percentage of population aged 24-64 with a bachelor's degree or above <li data-bbox="568 506 1407 577">☐ Scientific Talent Index: Measure of the number of research scientists and engineers per 1,000 workers
Euro-Technology Index	<ul style="list-style-type: none"> <li data-bbox="568 629 1407 701">☐ Innovation Index: Measure of the number of patents per million people <li data-bbox="568 707 1407 779">☐ High-Tech Innovation Index: Measure of the number of high-tech patents per million people <li data-bbox="568 786 1407 815">☐ R&D Index: Measure of R&D expenditure as percentage of GDP
Euro-Tolerance Index	<ul style="list-style-type: none"> <li data-bbox="568 869 1407 940">☐ Attitudes Index: Measure of attitudes towards minorities (based on the Eurobarometer Survey) <li data-bbox="568 947 1407 1099">☐ Values Index: Measure of values and attitudes that cover different aspects of the value system in a country (such as religion, nationalism, authority, family, women's rights, divorce and abortion) <li data-bbox="568 1106 1407 1218">☐ Self-Expression Index: Measure of attitudes toward self-expression, quality of life, democracy, trusts, leisure, entertainment and culture

Source: Florida and Tinagli, 2004: 42-44.

- 2.5 Key findings of the European study highlight the increasing shift of European countries towards creative economy. In particular, the creative class has comprised more than a quarter of the working population in five European countries. In terms of the performance in the Euro-Talent Index and the Euro-Technology index, some European countries (such as Sweden, Finland and the Netherlands) follow closely the leading position of the United States, and the findings strongly suggest a possibility that some European countries could match the US in the global competition for economic growth and for attracting creative people. A more surprising finding in the Euro-Tolerance Index is the relatively low score of the US. Thirteen European countries score higher than the US. As Florida and Tinagli point out, the European nations, especially Sweden, Denmark, the Netherlands and Finland may have a distinctive competitive advantage in terms of tolerance.¹⁵
- 2.6 As a pioneering work, the ECI has undoubtedly contributed enormously to the measuring of the dynamic relationships between creative workforce, economic growth and national competitiveness. It has initiated and shed light on a new and continuing line of research in international comparison of creativity.

15 For elaborate data and analyses of the Euro-Creativity Index, see Richard Florida and Irene Tinagli, *Europe in the Creative Age*, 11-12, 16, 20, 26-28 and 40-41.

3 Beyond Economic Contributions of Creativity

- 3.1** The Euro-Creativity Index and the work of Florida have contributed significantly to our understanding of creativity and economy. However, we believe that the overall assessment of creativity of a country (or city) should be much broader in scope and should certainly go beyond economic measures. In the following sections we will explore other indicators that could measure the diverse outcomes of creativity in a society.
- 3.2** We put forward an argument that the nurture of creativity in a society is attributed to many factors and its outcome manifested in many forms. Our framework aims to measure creativity in a society not only in terms of economic contribution but also the various manifestations and diversities of inventive activities. It also articulates a more comprehensive analysis in explaining the dynamics between the growth of creativity, institutions and socio-cultural values which might be different among the developed and Asian countries.
- 3.3** The Euro-Creativity Index and Creative Capital Theory are frameworks to test the hypothesis whether high levels of the creative capital, technological development and social tolerance do promote economic growth. We believe that creativity as driver of our local economy may lead to different paths of economic development. While the relative concentration of the creative class correlates with the growth of high-tech industries may be true in Europe or the United States, the dynamic relationship between economic development and creativity in the Asian context may be different.
- 3.4** A question could be asked: are the measures of high-tech industries and their correlation with the creative class the only indicators to reflect the diverse economic benefits as a result of creativity in society? In other words, creativity may unleash chains of economic production that could result in variegated outcomes. Economic development of some countries may depend on innovation in the technology sectors while others on manufacturing of creative goods or delivery of creative services.

- 3.5** The economic conditions conducive or unfavorable to the “economic production of creativity” may be significantly different among individual countries. This divergence in economic condition is a determinant factor that shapes the economic development of Asian countries. Take the role of Small-and-Medium Enterprises (SMEs) as an example, some scholars have pointed out that adaptable SMEs in Southeast and East Asia are the source of entrepreneurship. Their economic importance in promoting economic growth in the Post Asian Financial Crisis is noticeable (Hew, Denis and Loi Wee Nee, 2004).
- 3.6** The economic slowdown since 1997-98 has resulted in a striking retreat of foreign direct investment (FDI) from Asia, which has undermined the vitality of many South-east Asian countries heavily dependent on FDI for their development of local manufacturing industries. However, SMEs in some Asian countries have rebounded and demonstrated rapid recovery from the crisis (Sandee, Henry and Jan ter Wengel, 2004). The entrepreneurship and vitality of SMEs and the relative change of FDI in Asia are the enduring features of the Asian economic growth. We believe the development of creative economy in the region will inevitably be constrained by these factors in future.
- 3.7** Outputs of creative act measured in non-monetary terms are important signals of the vibrancy of creativity in general. The overall increase in creativity of a country should benefit social, cultural and economic sectors as a whole, and therefore, the increase of creative production would result not just in economic products and services, but material and non-material values that are central to social and economic life of the population.
- 3.8** These non-monetary creative outcomes include the production of music, songs, lyrics, books, periodicals, films, inventions, design, artifacts, art and cultural programmes as well as a wide range of creative activities which could produce intangible value equivalent to that of “public goods”, embodying knowledge, inspirations, aesthetics and symbolic meaning beneficial to the social and cultural development of creative minds and abilities.

4 Creativity, Institutions and Values

- 4.1 In the framework of the Euro-Creativity Index and Creative Capital Theory, the “3Ts” are mutually reinforcing. Put briefly, as Florida may argue, high level of diversity and social acceptance of outsiders will attract more talents to a place, thus creating a conducive environment to new ideas and innovation. This general idea holds true, but the social process embracing creativity is more complicated than a number of social, cultural and institutional factors may harness, sustain or constrain creativity. The increase of creativity in a society and the relative advantage of one region over the others could be attributed to the interplay of various determinants including the human, institutional, social and cultural factors. These variables work together as a milieu to determine the growth of creativity.
- 4.2 It is generally agreed that some institutional or infrastructural conditions are vital to the socio-economic development of a country. The role of information and communication technologies (ICT), for instance, is recognised as a major source of economic and social change (OECD, 2002). Other institutional factors such as labour productivity, corporate governance, structure of financial market and legal system as well as public policies have long been regarded as determinants of competitiveness of a country (Schwab and Porter, 2003).
- 4.3 We believe that any framework in explaining the growth of creativity should include some of these institutional factors into consideration. The reason is simple. It would be hard to argue that creativity can prosper in a society if there is weak protection and enforcement of intellectual property rights. It is also dubious that creative ideas could turn into valuable goods and services if the financial, economic and social structures of a society work against them. In short, creativity needs the institutional backup and support to thrive and prosper.

- 4.4 As regards “social” and “cultural” capital, they are not highly valued in Florida’s Creative Capital Theory. In *The Rise of the Creative Class*, he rejects the notion of “social capital” to be a useful concept to explain economic growth. According to Florida, a community with high levels of social capital (defined in terms of reciprocity, mutual respect, trust and civic-mindedness) could badly generate economic prosperity. And he concludes that “our evolving communities and emerging society are marked by a greater diversity of friendships, more individualistic pursuits and weaker ties within the community”, and “[places] with dense ties and high levels of traditional social capital provide advantages to insiders and thus promote stability, whereas places with looser networks and weaker ties are more open to newcomers and thus promote novel combinations of resources and ideas.”¹⁶
- 4.5 There are different forms of social capital. What Florida objects to is the approach of social capital advanced by Putnam (Putnam, 1993 and 2000). The notion of social capital is actually still evolving, and there are always different emphases on its components. For instance, in a recent study of the Saquaro Seminar Project, the report places high value of social capital on trust towards outsiders, trust between different ethnic groups, leadership, diversity of social networks and ties as well as equality and civic participation (Saquaro Seminar, 2001). Some of these values should be endorsed by the Creative Capital Theory for Florida and his empirical tests indeed depend very much on the World Values Survey which also incorporates a lot of indicators on attitudes towards social diversity and acceptance.
- 4.6 We do recognise effective norms can constitute a powerful form of social capital that may reduce innovativeness than harness creativity (Coleman, 2000). Our subscription to the social capital theory will be highly selective: those components of social capital highly valued in terms of diversity, social inclusiveness, trust and mutual co-operation will be more receptive in our framework.

- 4.7** We believe cultural capital also contributes to the growth of creativity, which refers to the value placed on arts and culture as well as practices that promote creative acts. It also means personal abilities nurtured and articulated in the course of cultural participation. Cultural value and practices are always twins of creativity, and there is a strong correlation between the process of creation and cultural inputs (Graham, 2002; Mercer, 2002; Evans, 2001). We subscribe to the view that high levels of cultural capital in a community would sow the seeds of creativity and innovation. As a recent study on the cultural development of Silicon Valley shows, cultural assets (cultural amenities) provide a basis for public participation in arts and culture, and the “accumulated results of this participation are measurable outcomes, such as increased feelings of connectedness to neighbours or heightened sense of community identification as a result of living in an aesthetically inspiring environment.” (Cultural Initiatives Silicon Valley, 2003).
- 4.8** We could put the preceding discussion in an Asian perspective. The institutional settings in support of innovation and creativity in Asia could be different from the developed countries in the West: there are observable differences such as in the financial and labour markets, infrastructural settings in ICT, educational or legal system that support the growth of creativity. Asian values, defined in terms of family values, social networks and attitudes towards self-expression, neighbourhood, diversity, freedom, arts and culture and etc., are remarkably different not only between the developed and developing countries but also within the region itself. This implies that the interplay of the various factors (human, institutional, social and cultural) in the Asian countries may generate a diverse pattern of growth in creativity. This Asian factor, however, has not been fully addressed in any existing model of creativity index, and that highlights our task to construct an alternative framework for measuring creativity that would work also for societies in this region.

III Establishing the Hong Kong Creativity Index (HKCI)

1 Approach and Framework of the HKCI

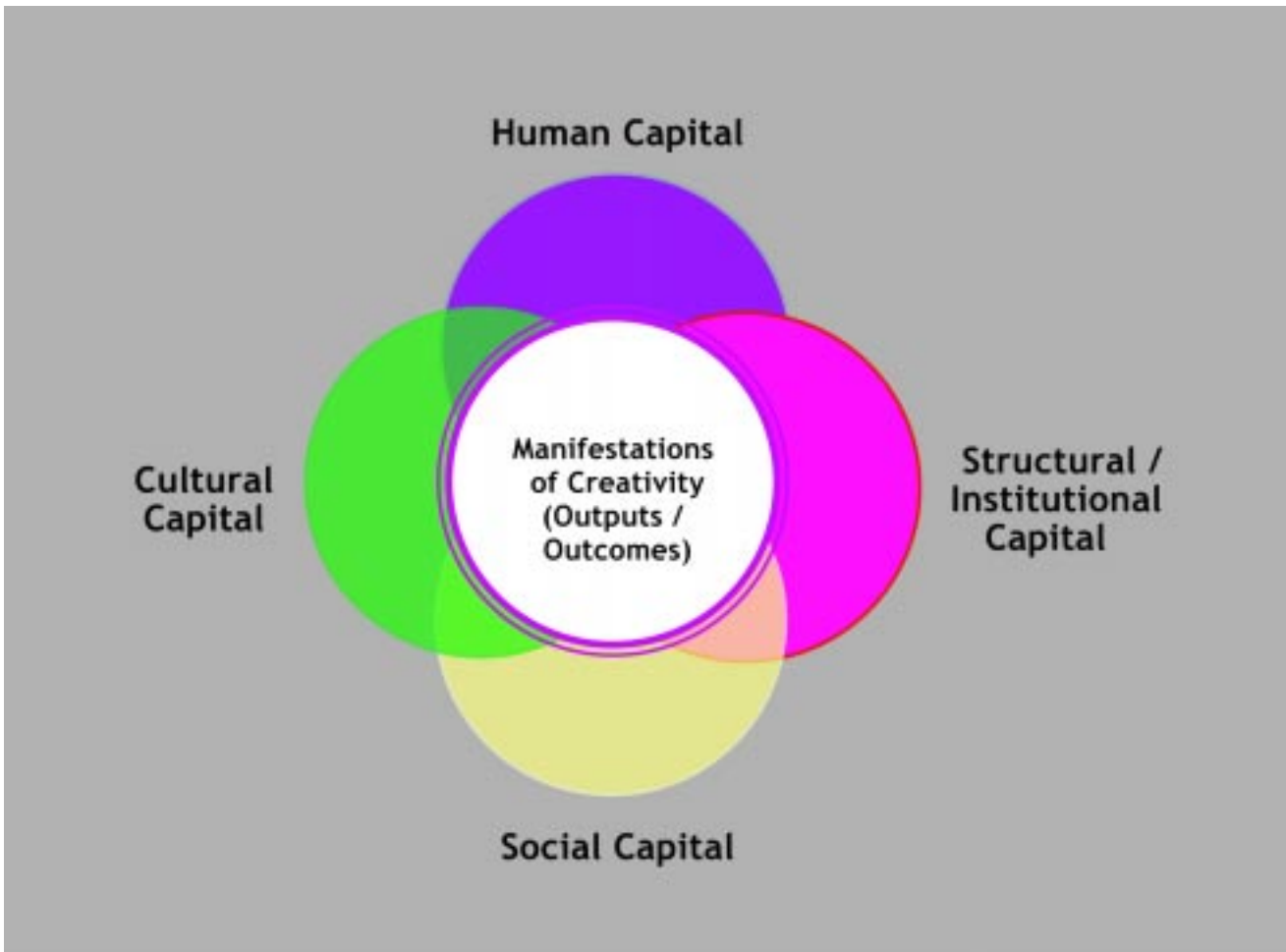
1.1 The Hong Kong Creativity Index (HKCI) is a new statistical framework for measuring the status of creativity and the determinants of the growth of creativity in a place. It is not merely a measurement of the economic outcomes of creativity, but also the flow of creative activities and the relative strength of determinant factors that contribute to the growth of creativity. The HKCI builds on various theoretical foundations, including the “Creative Capital Theory” advanced by Richard Florida and the conceptual frameworks derived from human, social and cultural capital.

5Cs: Creativity outputs + 4 Capitals

1.2 The point of departure for building the HKCI starts from a simple idea that a creative act can be mapped by using and applying the conception of a “cycle of creative activity”. The ability to create and make something new and valuable is an internal process of social actors. That means individual persons, private corporations and agents in public sector could develop their own skills, knowledge and resources in and devote their time and commitment to different forms of creative activities. This forms our basic argument that creativity is a social process continuously shaped and constrained by the values, norms, practices and structures of “**Social Capital**”, “**Cultural Capital**” as well as the development of “**Human Capital**”. While the ability to create is embedded in the contexts of three forms of capital, its articulation would be promoted or constrained by the availability and accessibility of facilities, institutions, market and social enablers, or in short the “**Structural/Institutional Capital**”. The accumulated effects and interplay of these different forms of capital are the measurable “**Outputs/Outcomes of Creativity**” which could be in terms of economic outputs, incentive activities and any other forms of creative goods, services and achievements.

1.3 The basic idea of the 5Cs forming the HKCI can be portrayed in the following diagram.

Figure 2 Interplay of the 5Cs



1.4 This framework defines the scope of the HKCI, introduces important concepts and organises them into a logical structure. Key features of this model are:

- ◆ Four forms of capital (structural/institutional, human, social and cultural) are the determinants of growth of creativity.
- ◆ Accumulated effects of the interplay of these determinants are the manifestations of creativity in terms of outcomes or outputs.

1.5 We further subscribe to 3 additional principles for operating the HKCI model:

- ◆ *Mutually reinforcing relationship*: the relationship among the determinants is not an order of hierarchy; rather, they are equally weighed and mutually reinforcing. Although creative ability and ideas could result in increased output of creativity, the relationship between different forms of capital and creative outcomes should not be equivalent to a simple “cause-and-result” formula. Increased vibrancy of the creative economy, for instance, could in turn encourage more creation of works and innovation and attract further investment in the development of human, social and cultural capital.
- ◆ *Multifaceted perspective of capital*: each composing concept in the HKCI is illustrated with different dimensions so as to reflect the status and dynamic changes of the respective form of capital as well as the outcomes of creativity. Taking the creative outcomes for example, we measure the manifestation of a creative society in terms of economic contribution, inventiveness and other outputs of creative activities. As for the development of human capital, the commitment of the private and public sectors in R&D, educational attainment of knowledge workers as well as the mobility of human capital would be measured.
- ◆ *Dynamic relationships between creativity, economy and society*: the HKCI is devised to capture different aspects of creativity and their impacts on local economy and society. It provides analysts and policy makers with a tool to evaluate the performance of a creative society in terms of its outcomes and to examine the relative strengths and weaknesses in the factorial development of major contributors that promote the growth of creativity.

2 Establishing the HKCI: Measuring Outcomes of Creativity

2.1 The HKCI identifies five broad domains related to the outcomes of creativity and contributors which are determinants of the growth of creativity. In the following subsections, we will introduce major concepts adopted in our framework, justify their relevance and present the proposed indicators that comprise the HKCI.

2.2 Creative activities and innovations generate not only economic outputs measured in terms of performance indicators (such as value-added to GDP, value of trade, etc.), but also outcomes shared and transacted among the populace. While economic outputs stand for the growth of creative economy and its potential of generating wealth and employment, other inventive outcomes present the general landscape, vitality and vibrancy of creative activities in a community. These two aspects of creative outputs, delineated in terms of economic and non-economic achievements, represent broadly the levels of creativity attained in the society.

2.3 We devise a data framework for measuring the “*economic contribution*”, “*inventive activity of economic sector*” and “*non-economic returns*” of creativity. Selected indicators in this framework cover broadly the following areas, and a checklist of indicators is presented in **Table 2**:

2.4 Key areas covered by the indicators:

- ◆ Economic contribution of creative industries
- ◆ Size of working population engaged in the creative industries
- ◆ Trade value of the creative industries
- ◆ Entrepreneurship of SMEs
- ◆ Economic contribution of e-commerce
- ◆ Inventive ability of business sector
- ◆ Innovation activity in terms of applications of patent
- ◆ Creativity activity (non-economic indicators) in the creative sector and in arts and culture

Table 2 Framework for Measuring the Outcomes of Creativity

<i>Measuring economic contribution of creativity</i>	
<input type="checkbox"/>	Value added of Hong Kong's creative industries as percentage of GDP
<input type="checkbox"/>	Number of persons engaged in creative industries as percentage of total employment
<input type="checkbox"/>	Share of goods trade of creative industries relative to total goods trade
<input type="checkbox"/>	Share of services trade of creative industries relative to total services trade
<input type="checkbox"/>	Value added of SMEs as percentage of GDP
<input type="checkbox"/>	Percentage of business receipts from selling goods, services or information through electronic means (as a new indicator measuring innovative activity of e-commerce)
<i>Measuring inventive activity of economic sector</i>	
<input type="checkbox"/>	Enumerated data on the ability of local enterprises to sell branded products in international market
<input type="checkbox"/>	Enumerated data on the ability of local enterprises to acquire new technologies
<input type="checkbox"/>	Productivity growth of economic sector
<input type="checkbox"/>	Total number of patent applications per population
<input type="checkbox"/>	Percentage of patent applications originated from HK (local applicants) relative to gross number of patent applications
<input type="checkbox"/>	Average annual growth of patent applications from 1991-2003
<i>Measuring other outcomes of creative activity</i>	
<input type="checkbox"/>	Daily circulation of newspaper per population
<input type="checkbox"/>	Book titles newly published per population
<input type="checkbox"/>	Share of Chinese (HK) records in total music sales
<input type="checkbox"/>	Total number of music titles composed per population
<input type="checkbox"/>	Total number of lyrics written per population
<input type="checkbox"/>	Total number of films produced per population
<input type="checkbox"/>	Total number of annual production of local performing arts programmes per population
<input type="checkbox"/>	Total number of annual presentation of non-local performing arts programmes per population
<input type="checkbox"/>	Total number of cultural presentations of visual arts per population
<input type="checkbox"/>	Number of new buildings designed
<i>Possible Indicators to be Included</i>	
Indicators included in the set of "other outcomes of creative activity" are based on the scope of 11 domains of creative industries in Hong Kong. Ideally, we would like to include indicators that reflect the outcomes and inventive activities of the advertising, design, antiques and craft, software, digital entertainment, radio and television sectors. Indicators on these domains are not yet available, or not yet included in our framework due to quality of data.	

3 Measuring Structural/Institutional Capital

- 3.1 The HKCI framework identifies six types of societal conditions - “*legal system*”, “*freedom of expression*”, “*international commitment to cultural development*”, “*ICT infrastructure*”, “*social and cultural infrastructure*” and “*entrepreneurship and financial structure*”. It is recognised that these conditions provide the context in a community where creativity takes place. More importantly, they provide the context for the development and protection of creativity as well as determining the conditions of utilisation and distribution of other forms of capital.
- 3.2 Some sets of indicators in the “Structural/Institutional Capital” framework have been recognised and used in international studies for the comparison of national competitiveness while others are interdependent on other forms of capital. For instance, indicators adopted for measuring “legal system” and “freedom of expression” have been used in the *Global Competitiveness Report*, and indicators on ICT infrastructure are some of the measures proposed by the OCED for measuring the emerging information economy.
- 3.3 The measures of legal institution, international conventions and freedom of expression are also relevant. Legal conditions not only provide a regulatory framework for commercial activities, but also for protection of intellectual property rights. These conditions are vital to any creative production in the economy. Measures of fulfillment of international conventions and the status of freedom of expression demonstrate the regulatory and institutional settings in a society, by which these conditions provided a context favorable for the exchange of ideas, access to information, freedom of association and social participation. In short, social capital grows out of these conditions whilst freedom of expression generates and promotes new ideas.

- 3.4** Our framework also includes a set of indicators on “social and cultural infrastructure” as well as “entrepreneurship and financial infrastructure”. Social and cultural facilities or institutions such as civic centres, community halls, religious meeting places, NGOs and cultural facilities are the spaces where social and cultural activities take place. Their availability in a community is an important condition for the development of social and cultural capital. By the same token, penetration of television, radio as well as computers and access to internet (the last two categories are covered in the ICT infrastructure) are facilities available for social contacts, dissemination of information and exchange of ideas. A place with poor setup of these facilities will constrain the social and cultural participation and hence creative activities in general while extensive availability may imply greater chance to use and more favorable physical conditions for the development of creativity.
- 3.5** Entrepreneurship and financial infrastructure are two important variables shaping the economic environment of creative economy. As we argued previously, the dominant presence of SMEs in Asia provides a context where entrepreneurship nurtures, and where Asian companies develop large extent of adaptability and flexibility in business operation. This condition may fit into the emerging structure of creative economy, in which small-and-medium firms specialised on production of symbolic goods or offering value-added services mushroom. Developing structure of financial markets in Asia also plays a key role in promoting the creative economy. Financial resources are fuel of economic innovation and production. The vitality and development of high-tech industries, ICT or creative industries in the region depends very much on the flow of these resources. Although our data does not support a direct measure of financial investment in these sectors, an overall measure of financial infrastructure in terms of FDI, capitalisation in stock market and size of venture capital funds could provide us with some general measures on the macro financial environment for the growth of creative economy.

3.6 A checklist of indicators in “Structural/Institutional Capital” framework is presented in **Table 3**:

Table 3 Framework for Measuring Structural/Institutional Capital

<i>Evaluating the importance & efficiency of legal system in HK</i>	
<input type="checkbox"/>	Enumerated data about HK's independent legal system
<input type="checkbox"/>	Enumerated data about HK's efficiency of legal system
<input type="checkbox"/>	Enumerated data about HK's protection of property rights
<input type="checkbox"/>	Enumerated data about HK's protection of intellectual property rights
<input type="checkbox"/>	Enumerated data about the accessibility to buy pirated or counterfeit goods in HK as compared to the past 12 months
<i>Evaluating freedom of expression</i>	
<input type="checkbox"/>	Enumerated data about HK's freedom of press
<i>Evaluating the fulfillment of international obligations</i>	
<input type="checkbox"/>	Ratification of international treaties covering human rights and arts and culture
<i>Evaluating infrastructural conditions of ICT</i>	
<input type="checkbox"/>	Percentage of establishments using personal computers
<input type="checkbox"/>	Percentage of establishments with internet connection
<input type="checkbox"/>	Percentage of establishments with web page / web site
<input type="checkbox"/>	Percentage of households using personal computers
<input type="checkbox"/>	Percentage of households with internet connection
<input type="checkbox"/>	Mobile phone subscribers per population
<i>Evaluating the availability of social and cultural infrastructure</i>	
<input type="checkbox"/>	Registered public library users per 100 people
<input type="checkbox"/>	Number of books in public libraries per 100 people
<input type="checkbox"/>	Seating capacity of performance arts venue per population
<input type="checkbox"/>	Community halls per population
<input type="checkbox"/>	Civic centers per 100,000 people
<input type="checkbox"/>	Number of declared monuments per population
<input type="checkbox"/>	Number of leisure facilities per population
<input type="checkbox"/>	Number of religious meeting places per population
<input type="checkbox"/>	Number of Non-government organizations (NGO) per population
<input type="checkbox"/>	Public museums per 100,000 people
<input type="checkbox"/>	Number of cinema seats per population
<input type="checkbox"/>	Radio sets per 100 people
<input type="checkbox"/>	Television set per 100 people
<i>Evaluating entrepreneurship & financial infrastructure of Hong Kong</i>	
<input type="checkbox"/>	Total number of SME establishments in Hong Kong
<input type="checkbox"/>	Number of listed companies in Hong Kong
<input type="checkbox"/>	Annual growth of capitalization of stock market in HK
<input type="checkbox"/>	Market value of inward direct investment
<input type="checkbox"/>	Market value of outward direct investment
<input type="checkbox"/>	Growth rate of venture capital under HK management

4 Measuring Human Capital

- 4.1 Investment in human capital has long been recognised as an effective factor to promote economic growth. In studies of a broad set of countries including developed and developing countries, standard measures of human capital based on educational attainment seems to suggest a positive effect on countries' GDP in the short run and on economic growth in the long run (Barro, 2001).¹⁷ Richard Florida even argues that the concentration of the creative class in a region attracts more "talents" (defined in terms of persons with higher educational attainment) and in turn, promotes further economic prosperity.
- 4.2 We support the premise that human capital is crucial to the growth of economy. Therefore, our "Human Capital" framework takes into account R&D expenditure, the size of R&D personnel and groups of population with higher educational qualification as the key indicators to show a community's investment in innovation activity and to demonstrate the levels of achievement in human capital development. We add some new indicators in the framework to reflect the multifaceted aspects of human capital development. One of these is the working population engaged in "life-long learning". This indicator provides us with a new dimension about continuous investment in the development of skills and knowledge among the active working population.
- 4.3 In addition, a set of indicators on population movement is established in our framework. Mobility of human capital forms one aspect of this movement. As we believe, high levels of transient population (in terms of mobile working population, foreign workers, and students studying abroad) will facilitate cultural exchange, transfer of skills and knowledge as well as generation of new ideas. Arrivals, resident departures and number of emigrants, on the other hand, show another aspect of population movement. It is generally recognised that number of arrivals is a strong indicator of tourism, which may imply the attractiveness and hospitality of a place and likewise, conditions conducive to international cultural exchange. Similarly, outgoing population (such as resident departures or emigrants) could be a suggestive indicator of cultural exchange and greater international exposure

17 Another reference on human capital research is Serge Coulombe, Jean-François Tremblay, and Sylvie Marchand, *International Adult Literacy Survey: Literacy Scores, Human Capital and Growth Across Fourteen OECD countries*, Canada: Statistics Canada, 2004.

4.4 In short, the “Human Capital” framework measures two broad sets of conditions in support of human capital development. Firstly, by measuring R&D expenditure, size of R&D personnel, number of population with higher degrees and number of working population engaged in continuous learning, we examine the extent of a community to provide a favorable context for the development of “knowledge bank”. Secondly, we subscribe to the view that mobility of human capital and population can indicate various social conditions conducive to cultural exchange, exchange of skills and knowledge and international exposure. These qualities of human capital development will reinforce the strength of other forms of capital and contribute to the growth of collective creativity.

4.5 A checklist of indicators in “Human Capital” framework is presented in **Table 4**:

Table 4 Framework for Measuring Human Capital

<i>Measuring R&D Expenditure & Educational Expenditure</i>	
<input type="checkbox"/>	R&D expenditure (business sector) as percentage of GDP
<input type="checkbox"/>	R&D expenditure (higher education) as percentage of GDP
<input type="checkbox"/>	R&D expenditure (government) as percentage of GDP
<input type="checkbox"/>	Government expenditure in education as percentage of GDP
<i>Measuring population of knowledge workers</i>	
<input type="checkbox"/>	Share of population aged 15 and above with educational attainment at tertiary level (non-degree)
<input type="checkbox"/>	Share of population aged 15 and above with educational attainment at tertiary level (degree and above)
<input type="checkbox"/>	Number of R&D personnel as percentage of total working population
<input type="checkbox"/>	Number of persons attending job-related training or retraining courses as percentage of total working population
<i>Measuring the transience / mobility of human capital</i>	
<input type="checkbox"/>	Percentage of transient population (mobile residents) relative to total population
<input type="checkbox"/>	Number of students studying abroad
<input type="checkbox"/>	Number of working visas per working population
<input type="checkbox"/>	Total number of visitor arrivals
<input type="checkbox"/>	Annual growth of visitor arrivals
<input type="checkbox"/>	Total number of Hong Kong residents departures per population
<input type="checkbox"/>	Annual growth of Hong Kong residents departures
<input type="checkbox"/>	Estimate number of Hong Kong emigrants per population

5 The Concepts of Social and Cultural Capital

- 5.1 We believe the third T raised by Florida - Tolerance Index - is innovative and important for a study of this nature. The index captures the less tangible, but crucial aspect in assessing the creative edge of a world city. It has now been widely acknowledged that while technology and talent are indispensable assets of a creative economy, whether a city has a cultural milieu which attracts, mobilises and sustains creativity is equally important. Florida and Tinagli's study made use of the findings of the World Values Survey to construct an index that taps and compares selected European nations' value preferences concerning diversity, openness and self-expression. The resultant scores reveal that a high level of 'tolerance' is closely associated with other indices on talent and technology as well as the overall economic dynamism of a nation.

- 5.2 We will develop a similar version of the "tolerance index" for measuring Hong Kong's performance and potential in this respect. We also seek to expand on the index by making a conceptual distinction between two aspects of the social milieu that help generate and sustain creativity.

5.3 The first aspect pertains to what many scholars call “social capital”. This refers to the social networks that people in a place are enmeshed in. It has been demonstrated by waves of studies in various countries since the 1970s that the trust, reciprocity, information, and cooperation associated with rich social networks are conducive to a heightened sense of collective well-being, social expression and civic engagement. All these in turn enable individual and collective creativity to flourish. In the words of Putnam, “social capital creates value for the people who are connected”. We shall, mainly through the World Values Survey, gauge Hong Kong people’s norms and values with regard to social network and their actual patterns of social participation. In particular, we shall collect data and create indices on the following areas:

- ◆ Generalised trust
- ◆ Institutional trust
- ◆ Reciprocity
- ◆ Sense of efficacy
- ◆ Cooperation
- ◆ Attitudes towards minorities
- ◆ Espousal of modern values
- ◆ Self-expression
- ◆ Participation in social activities including voluntary work, barriers to social participation, membership of clubs and organisations and intensity of social contacts.

5.4 As mentioned above, the study of social capital is relatively well established in various parts of the world. Researchers commonly agree that the above selected areas constitute the core aspects of people’s life that reveal the quality of the social capital within a community.¹⁸

18 For relevant studies on social capital, see the Social Capital Community benchmark Survey conducted by John F. Kennedy School of Government at Harvard University (<http://www.cfsv.org/communitysurvey/>); and Professor Robert Putnam’s related work (<http://www.bowlingalone.com/socialcapital.php3>); the sources listed in Management Alternatives Pty Ltd Australia (<http://www.mapl.com.au/A13.htm>), and The World Values Survey led by Professor Ronald Inglehart at Michigan (<http://www.worldvaluessurvey.org/organization/index.html>).

5.5 The second aspect of the social milieu conducive to creativity pertains to “cultural capital”. The term has been variously defined and used in the scholarly literature. In this study we shall, following the Creative Community Index study carried out by Cultural Initiatives Silicon Valley, use it to refer to the more specific activities and qualities relating to culture, art and creativity in everyday life.¹⁹ It is concerned with the degree in which people in a community value creative activities not directly related to economic returns. Such creative activities often manifest themselves in but are not confined to, different forms of art and performance, as an attitude to innovation can reveal itself in the everyday life context of work and social activities. The assumption is that, following the Silicon Valley Study, cultural participation can produce new ideas and expressions and hence enhance creativity in a broad sense. A community is high in cultural capital and hence creative potential, if its people value different forms of art and other cultural activities and have wide access to them, if they are able to invest time and effort in such activities, and are eager and able to cultivate among the younger generation an embracement of art and culture.

5.6 We shall in the study, through a combination of data sources and types, create indices pertaining to the norms and values towards the patterns of participation in art and cultural activities. We shall in particular gauge the value that Hong Kong people place on creative activity, on school-aged children’s creative activity, on arts and culture in their personal development, and their assessment on whether their social milieu including work, community, and government acts are conducive to their cultural and creative pursuit. We shall also gather data relating to actual form and extent of participation in art and cultural activities by different sections of the population.

19 Cultural Initiatives Silicon Valley (2003). Creativity Community Index Study: Measuring Progress Toward A Vibrant Silicon Valley (<http://www.ci-sv.org/index.shtml>).

6 Measuring Social Capital

- 6.1 Most of the data on social capital and cultural capital relate to the values and norms held by the population. The best method to tap such data is a social survey, which is a well-established practice among scholars working on related issues. We will conduct a fresh survey to gauge such values among local residents. To ensure the international comparability of the indices, we plan to draw on the World Values Survey's format and questions, revise and enrich them where necessary to make them pertinent to local conditions. We plan to carry out a fact-to-face territory-wide survey of around 1,200 residents of Hong Kong, tapping their values and practices with regard to the dimensions of social and cultural capital discussed above. We have liaised with the World Values Survey team headed by Professor Ronald Inglehart at the University of Michigan to make use of the questionnaire and access the relevant data.
- 6.2 The results can hence be directly compared to highly similar data sets for the 65 nations/places (including those in the Asian region) under the rubric of the World Values Survey as well as the Euro-Creativity index produced by Florida and Tinagli. The results from the survey will help us construct indices of social and cultural capital that serve as a baseline for assessing the potential of Hong Kong in sustaining a social and cultural environment that nurtures, attracts and mobilises creative talents. The resultant index will also shed light on how Hong Kong compares with its Asian neighbours and global partners and competitors in the long run.
- 6.3 Our survey will be conducted in a latter stage of this research, and therefore, a complete set of indicators on social capital is not yet available. However, based on the above discussion, we present the contour of our "Social Capital" framework in *Table 5*.
- 6.4 Apart from the measures of people's norms, values and their social participation, our data framework captures the development of social capital in a community by measuring the corporate and private donations as well as public sector's expenditure in social welfare. These indicators will not only tell the levels of resources available for social capital development, but also demonstrate the commitment of public sector, corporations and individuals to the development of social capital.

Table 5 Framework for Measuring Social Capital

<i>Measuring the development of social capital</i>	
<input type="checkbox"/>	Gross corporate donations per profit before tax
<input type="checkbox"/>	Growth rate of corporate donations
<input type="checkbox"/>	Gross value of individual charitable donations per capita
<input type="checkbox"/>	Growth rate of individual charitable donations
<input type="checkbox"/>	Corporate and individual charitable contributions as percentage of GDP
<input type="checkbox"/>	Expenditure on "social welfare" as percentage of total public expenditure
<input type="checkbox"/>	Public expenditure on social welfare as percentage of GDP
<input type="checkbox"/>	Total number of NGOs per capita
<i>Measuring network quality: norms & values</i>	
<input type="checkbox"/>	Indicators derived from World Value Survey on generalized trust
<input type="checkbox"/>	Indicators derived from World Value Survey on institutional trust
<input type="checkbox"/>	Indicators derived from World Value Survey on reciprocity
<input type="checkbox"/>	Indicators derived from World Value Survey on sense of efficacy
<input type="checkbox"/>	Indicators derived from World Value Survey on cooperation
<input type="checkbox"/>	Indicators derived from World Value Survey on acceptance of diversity and inclusiveness
<input type="checkbox"/>	Indicators derived from World Value Survey on attitudes towards minorities
<input type="checkbox"/>	Indicators derived from World Value Survey on traditional vs modern values
<input type="checkbox"/>	Indicators derived from World Value Survey on self-expression
<i>Measuring network quality: social participation</i>	
<input type="checkbox"/>	Indicators derived from World Value Survey on participation in social activities
<input type="checkbox"/>	Indicators derived from World Value Survey on barriers to social participation
<input type="checkbox"/>	Membership of clubs, organizations or associations (links to institutions)
<input type="checkbox"/>	Indicators on frequency / intensify of social contacts
<input type="checkbox"/>	Indicator on time use pattern
<input type="checkbox"/>	Indicator on participation in voluntary work
<input type="checkbox"/>	Total number of volunteers per capita

7 Measuring Cultural Capital

7.1 The data structure for measuring cultural capital is similar to the “Social Capital” framework, covering three aspects of cultural capital in a community. We will examine the public sector’s and corporations’ resources commitment to the development of arts and culture by measuring public expenditure in and corporate donations to the cultural sector. Since data on disposable personal income in arts and culture is not available, we will use a substitute, household expenses on selected categories of cultural goods and services, to reflect the community’s investment in arts and culture. Measures of cultural norms and values are largely confined to some general attitude towards creativity, value placed on arts, art education and on the issue of IP rights protection. Some measures of social capital and cultural capital are interdependent. For instance, attitude towards diversity and variables of self-expression are invariably essential quality of cultural capital, but they are also important element in other forms of capital. And lastly, measures of cultural participation cover a wide range of cultural consumption. They are not in economic terms, but patterns of engagement (such as utilisation, frequency and intensity) in arts and cultural activities.

Table 6 Framework for Measuring Cultural Capital

<i>Measuring cultural expenditure and finance</i>	
<input type="checkbox"/>	Expenditure on "arts & culture" as percentage of total public expenditure
<input type="checkbox"/>	Public expenditure on arts & culture as percentage of GDP
<input type="checkbox"/>	"Current expenditure" (public) on cultural domains
<input type="checkbox"/>	"Capital expenditure" (public) on cultural domains
<input type="checkbox"/>	"Current receipts" (public) from cultural domains
<input type="checkbox"/>	Value of corporate donation to arts & culture as percentage of total amount of charitable donations
<input type="checkbox"/>	Value of individual donation to arts & culture as percentage of total amount of charitable donations
<input type="checkbox"/>	Household expenses on designated cultural goods & services as percentage of total household expenses
<input type="checkbox"/>	Share of expenses on arts education as percentage of household expenses
<i>Measuring network quality: Norms & values</i>	
<input type="checkbox"/>	Value placed on creative activity
<input type="checkbox"/>	Value placed on school-aged children's creative activity
<input type="checkbox"/>	Value placed on arts and culture to daily life and personal development
<input type="checkbox"/>	Value placed on milieu that encourage cultural participation
<input type="checkbox"/>	Value placed on the morality to buy pirated or counterfeit goods
<input type="checkbox"/>	Value placed on protection of IP rights that could help the development of local creative industries
<i>Measuring network quality: cultural participation</i>	
<input type="checkbox"/>	Participation rate of population aged 15 or above attending one form of cultural activity in the past 12 months
<input type="checkbox"/>	Proportion of population aged 15 and above who perform or is engaged in one form of artistic/creative activity on an amateur basis
<input type="checkbox"/>	Participation rate of school aged children who attend one form of cultural activity in the past 12 months
<input type="checkbox"/>	Hours of participation (intensity) in cultural activities on each occasion
<input type="checkbox"/>	Number of library books borrowed per 100 registered users
<input type="checkbox"/>	Royalty fees paid to CASH per population (excl. revenue from overseas)
<input type="checkbox"/>	Frequency of book reading for leisure purpose in the past 12 months
<input type="checkbox"/>	Average hours per week of television viewing
<input type="checkbox"/>	Average hours per week of radio listening
<input type="checkbox"/>	Average hours per week spent on internet for personal use
<input type="checkbox"/>	Number of visits to museums per population
<input type="checkbox"/>	Number of attendance to performances per population
<input type="checkbox"/>	Number of attendance to film and video arts per population



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A Study on Hong Kong Creativity Index

Interim Report

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