6th Annual Conference of the EPIP Association

Fine-Tuning IPR Debates

Session 1.D: IPR and development

Comparative Advantage and Intellectual Property Rights: Some Evidences from Creative Industries in Bhutan, China and Egypt[1]

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September 8th 2011, Brussels, Belgium

Working Paper

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[1] Financial sponsorship of Hull University Business School is acknowledged. The authors would also like to thank Markie Muryawan, from Development Statistics and Information Branch of UNCTAD for kindly responding to our query on key terms used in UNCTAD creative economy database.

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1. Background to Creative Industries

Creative industries (CI) "are the cycles of creation, production and distribution of goods and services that use creativity and intellectual capital as primary inputs" (UNCTAD 2010). The notion that intellectual capital can be organized as a primary factor of production whereby various industries can be deemed 'creative' does not go without inviting academic scrutiny (Oakley 2004; Elliot 2007). In the UK where the idea conceived, as Labour government was voted out of the office and general business environment changed, 'creative industries' have lost much of its currency as an industrial policy tool. With the onset of the worst recession in decades, many cultural organizations and creative businesses which have only recently gone through a period of boom are found to be facing large budget cut and the withdrawal of supports by the government.

Elsewhere in the world, the contrast could not be more different. In the dynamic industries such as new media, game and performing arts, Germany is rising fast to challenge the traditional US leadership. In the developing world the concept is now increasingly taken up by the government to encourage creativity, entrepreneurship and innovation. China, for example, instituted first official Cultural and Creative Industries Development Plan to 'kick start' a nation-wide campaign, and began strategic reorganization of state owned enterprises (SOEs) in publishing and media, to be followed by capital market listing, Chinese firm such as Crystal CG has quietly entered the world stage of creative business after its debut in the grand opening of the Beijing Olympics. In India, increasing level of specialization has made India the world's largest exporter of handmade paper with 23 % of the world's export market share[4]. In spite of major instability, Afghanistan has become the 11th largest carpet exporter in the world with a 2 % of global share in export[5].

While creativity is and has always been a key force behind human progress, it can be argued that the concept of creative 'industries' offers a new lens through which one can examine and capture 'kaleidoscopic' combination and recombination of human ingenuity and organization. In the context of development, trade in creative goods such as handicrafts provides the least developed countries (LDC) with income generation and diversification opportunities from traditional agriculture. Trading a country's authentic material culture embodied in the form of traditional handicraft also gives voice to the nations (Barrowclough and Kozul-Wright 2007; Schultz and Van Gelder 2008) and has a great potential to transform skills into opportunity driven entrepreneurship and self empowerments (UNIDO 2011).

Based on recently released international trade data provided by UNCTAD's creative economy

[4] Computed by the authors from trade flow matrix based on UNCTAD Creative Economy Database.
[5] Ibid.

programme, this paper presents some preliminary findings of an ongoing study which aims to empirically assess, though at this stage very partially and limited, the relationships between revealed comparative advantage (RCA) and intellectual property rights (IPRs). While there is no shortage of academic literatures which pointed out the importance of IPRs to creative industries (Schultz and Van Gelder 2008), there remains few sector based, large scale, cross national study which investigates the relationship between RCA and IPR. While the research is ongoing to explore wider implication of IPRs for development, the focus of this paper is to present the result of empirical assessment on creative economy hence the focus is leaned towards understanding the overall performance of creative industries in the world and related comparative advantage of CI and its sub-groupings. Specifically, the paper looks at (1) trade dependency ratio in relation to CI, (2) revealed comparative advantage across 24 CI sub-groups and top performer, (3) local development issues pertaining to CI based interventions aiming at enhancing competitiveness.

The analysis is drawn from a 206 x 206 country to country trade flow matrix organized by 24 creative industries sub-groups to assess sectoral pattern of trade. The dataset for trade dependency ratio uses a smaller sample of 103 countries which reported on both trade in goods and services. The research has not been able to provided evidences on the linkage between RCA and IPR which would only be available with more time and efforts finding a suitable concordance between WIPO based statistics measure and UNCTAD's ISTC/HS systems. Future directions are discussed as to how to develop from this paper for the ongoing research and the difficulty to integrate WIPO based IPR statistics with UNCTAD's classification on creative industries[6]. The structure of this paper is as follows. The first part of the paper presents an overview of creative economy in terms of trade dependency and RCA. The second part of this paper looks at the RCA and sectoral pattern of CI trade in the cases of Bhutan, Egypt and China. The third part of this paper reflects on the findings from the field missions and discusses the potential of CI for development. The final part of this paper outlines further steps for the future research.

2. Creative Economy and Trade Dependency

UNCTAD's creative industries' classification is divided into three categories: (1) Trade in Creative Goods (CG), (2) Trade in Creative Services (CS) and (3) Related Industries (RI). Both (1) and (2) constitute 'core' creative industries in UNCTAD's classification which is different from UNESCO's systems of cultural statistics in terms of classifying 'core' vs. 'periphery'. CG data was sourced from UN COMETRADE whereas CS data was obtained from IMF's Extended Balance of Payment in Services (EBOPS). HS2002 is the relevant standard applied to trade in goods. Significant amount

[6] One key issue encountered on IPR statistics for creative industries points to the difficulty to obtain HS or ISTC corresponding/concordance tables with IPR classification systems such as IPC and Lucanno.

of data gathering have been presented using UNCTAD's statistical framework. Due to aggregation, UNCTAD did not disclose HS2002 code name or codes used to aggregate 24 sub-groups of CG or the quantity of goods traded as a result of aggregation. There are no separate CI based IPR statistics and IPR statistics are presented on the whole as related industries. A future 'wish list' is proposed by UNCTAD based on Central Product Classification (CPC) classification. The classification is shown in the table below. Appendix 1 provides more detail descriptions.

Table 1: Categories of CG and Number of Codes

Category & No. of Code Included	Sub-group	Sub-Code	Category & No. of Code Included	Sub-group	Sub-Code
Art Crafts (60)	Carpets	17	Design (continue)	Toys	17
	Celebration	2	New Media (8)	Recorded Media	6
	Other	6		Video Games	2
	Paperware	1	Performing Arts (7)	Music (CD, Tapes)	6
	Wickerware	4		Printed Music	1
	Yarn	30	Publishing (15)	Books	4
Audio Visuals (2)	Film	2		Newspaper	3
Design (102)	Architecture	1		Other Printed Matter	8
	Fashion	37	Visual Arts (17)	Antiques	3
	Glassware	5		Paintings	3
	Interior	32		Photography	4
	Jewellery	10		Sculpture	7

Source: author's compilation from UNCTAD 2010

UNCTAD data on CI provide an international base for assessing comparative advantage across the world. When triangulated with national account, it can help to examine the impact of CI based policy interventions on income and expenditure, investment and consumption, and can offer useful utility for trade policy analysis and modeling, for example, finding out whether export oriented promotional strategies targeting specific CI improves income. Trade policy analysis can also provide opportunities to align domestic interest for CI development with subsequent effort for nation branding/territorial marketing, and helping to spread a country's material culture abroad. Further potential exists for developing a CI based global input output table for trade policy modeling, and the identification of key linkage sector in the input output table as new growth engine (Ye and Yin 2011).

To assess the overall importance of CI, trade dependency (TD) ratio[7] is used to estimate a country's degree of reliance on CI (both CG and CS). Related industries (RI) are not included to avoid over-estimation[8]. The dataset contains 103 countries which reported on both goods and services categories. The table below shows countries with above average (2.8%) TD ratio. As revealed, it includes many European and developing as well as developed island economies. There is also higher level of concentration in top 10 for European countries from the central and eastern European (CEE) (Hungary, Czech, Slovenia and Moldova). Of top 10 countries include 7 European states (4 CEE plus Malta, Ireland, Netherland and Belgium) and 4 island economies (HK, Ireland, Singapore and Malta). Hong Kong's top position reflects a known phenomenon that it tends to channel a large part of trade in and out of China. More than half (23 out of 36 countries) presented below are European (12 from CEE). The list also contains many small developing island economies (French Polynesia, Netherland Antilles, Barbados, Jamaica etc). To what extent and in what specific CI grouping these countries have greater dependency is the focus of further studies.

Table 2: Trade Dependency (TD) Ratio (Above Average 0.028)

		TD CGS	TD CG	TD S			TD CGS	TD CG	TD S
1	Hong Kong	0.293	0.291	0.002	19	Fr. Polynesia	0.038	0.025	0.012
2	Malta	0.252	0.036	0.216	20	Macedonia	0.038	0.013	0.025
3	Netherlands	0.087	0.026	0.062	21	Latvia	0.037	0.022	0.016
4	Ireland	0.083	0.018	0.066	22	Austria	0.036	0.032	0.003
5	Belgium	0.069	0.035	0.034	23	Germany	0.036	0.017	0.019
6	Hungary	0.059	0.017	0.042	24	Serbia	0.034	0.013	0.020
7	Singapore	0.057	0.054	0.002	25	Lithuania	0.031	0.026	0.004
8	Czech	0.056	0.040	0.016	26	Canada	0.030	0.016	0.015
9	Slovenia	0.052	0.031	0.021	27	N. Antilles	0.030	0.026	0.004
10	Moldova	0.051	0.047	0.005	28	Barbados	0.030	0.030	0.000
11	Estonia	0.050	0.033	0.017	29	Mauritius	0.030	0.024	0.006
12	Luxembourg	0.048	0.018	0.030	30	Jamaica	0.030	0.022	0.008
13	Switzerland	0.047	0.047	0.000	31	New Caledonia	0.028	0.011	0.017
14	Croatia	0.044	0.020	0.024	32	Portugal	0.028	0.014	0.015
15	Bulgaria	0.042	0.022	0.020	33	Poland	0.028	0.017	0.011
16	Slovakia	0.040	0.027	0.013	34	Guyana	0.028	0.021	0.007
17	Cyprus	0.039	0.021	0.018	35	Portugal	0.028	0.014	0.015
18	Malaysia	0.039	0.020	0.019	36	Average	0.028	-	-

Source: UNCTAD 2010, based on 103 countries.

[7] $TDR_i^c = \frac{X_i^c + M_i^c}{GDP^c}$, GDP, export and import are based on current prices and current exchange rates

[8] RI will be included to understand its potential for supporting CI.

Table 3 below further reports on TD ration for trade in CG. The world average is lower than total TD ratio (1.35%) for creative goods. Compares with the last table, many more developing economies from Asia, Africa, Middle East, Central and South America have joined.

Table 3 Creative Goods (CG) Trade Dependency Ratio

Rank	Country/Region	%	Rank	Country/Region	%	Rank	Country/Region	%
1	Hong Kong SAR	29.13%	23	Thailand	2.59%	45	Namibia	1.81%
2	Afghanistan	6.23%	24	French Polynesia	2.52%	46	EU	1.81%
3	U.A.E.	5.58%	25	Denmark	2.48%	47	Luxembourg	1.80%
4	Singapore	5.45%	26	Bosnia & Herzegovina	2.47%	48	Ireland	1.80%
5	Switzerland	4.69%	27	Mauritius	2.41%	49	Italy	1.76%
6	Moldova	4.65%	28	Tunisia	2.27%	50	Hungary	1.75%
7	Viet Nam	4.42%	29	Paraguay	2.25%	51	Poland	1.72%
8	Czech	4.02%	30	Lebanon	2.23%	52	Germany	1.69%
9	Macao SAR	3.91%	31	Zimbabwe	2.22%	53	Madagascar	1.65%
10	Malta	3.61%	32	Jamaica	2.20%	54	El Salvador	1.64%
11	Belgium	3.53%	33	Bulgaria	2.19%	55	Canada	1.60%
12	Maldives	3.35%	34	Latvia	2.16%	56	Romania	1.60%
13	Estonia	3.26%	35	Dominican Rep.	2.12%	57	Panama	1.56%
14	Austria	3.24%	36	Cyprus	2.08%	58	Bahamas	1.54%
15	Seychelles	3.17%	37	Guyana	2.06%	59	Dominica	1.45%
16	Slovenia	3.09%	38	China	2.06%	60	Taiwan	1.44%
17	Barbados	2.99%	39	Malaysia	2.04%	61	France	1.40%
18	Jordan	2.89%	40	Cambodia	2.04%	61	Belarus	1.38%
19	Slovakia	2.70%	41	Croatia	1.98%	62	Nicaragua	1.37%
20	Lithuania	2.64%	42	Sweden	1.92%	63	Portugal	1.35%
21	Net. Antilles	2.59%	43	United Kingdom	1.91%	64	The World	1.35%
22	Netherlands	2.59%	44	Montserrat	1.90%	65	Costa Rica	1.34%

Source: Calculated from 2008 trade flow matrix based on 2008 data from 2010 UNCTAD Stats Creative Economy Report; GDP measure is calculated from UNCTAD Stats Economic Trends; Using World Average 1.35% as a benchmark, the table shows those countries with Trade Dependency Ratio $>$ or $\cong$ 1.35%.

Two most notable inclusions on the table above are Afghanistan and U.A.E. (6.23% and 5.58%) amongst two five. For Afghanistan, high TD in goods seems to suggest great potential for CI to play a leading role in the post-war reconstruction of the war torn Afghan economy. In the case of U.A.E., the country has become a key driving force for demand and supply in CI and a global

creative hub for trading[9]. The rise of U.A.E. has important implication for the gulf region and demonstrates a successful case of diversification from the traditional petrol sector. Other MENA based countries on the list include Jordan, Tunisia and Lebanon. Amongst top 10 also includes Moldova and Vietnam. Full results for 103 countries are reported in Appendix 3 and 4. Given the importance of trade in creative goods for developing economies, further works are needed to assess the size of the sector and finding out key sector as well as specific sub-groups, and if they can be enhanced further for specialization and comparative advantage.

3. Revealed Comparative Advantage of Creative Economy

Since its first use by Balassa (Balassa 1965; Yeats 1985), Revealed comparative advantage (RCA) or Balassa index have undergone different revisions by successive authors (Aquino 1978; Bowen 1983; Yeats 1985; Vollrath 1991; Hausmann, Hwang et al. 2007; Amador, Cabral et al. 2011). The authors are not unaware of the limitation of applying the traditional Balassa index such as in dealing with unbalanced trade. At this stage, we calculate the traditional Balassa index[10] to assess the performance of RCA in 24 sub-groups of creative goods presented on 206 x 206 country to country flow matrixes. Further works will use other measures of CI to enhance empirical rigor and in consideration of unbalanced trade and other technical factors reported (Bowen 1983; Vollrath 1991; Amador, Cabral et al. 2011). Grubel-Lloyd (GL) index will also be used to detect the presence of intra-industry trade.

The table below reports top ten countries in 24 sub-grouping. Due to time constraints and the limit of space for presenting, RCA for 24 CI sub-groups is not presented but will be examined. As revealed by Table 4, art crafts, design and publishing are three product areas where developing economies have strong RCA, both in terms of numbers of countries represented and the strength of RCA measure. Afghanistan and Pakistan which have strong sub-grouping in carpet (art crafts) and fashion (design) also have higher level of bilateral trade in carpet and antique sub-groups. Afghanistan and Zimbabwe which reported high RCA value in visual arts show even higher RCA in the sub-grouping of antique. Top ten in performing arts still include mostly advanced economies. Both new media and audio-visual sub-groupings have more limited number of countries which have greater than one value for RCA but include large Asian emerging economies like China and India and some developing economies such as Thailand and Lebanon. Further research into sub-groupings are needed in order to find out reasons behind strong RCA in the countries shown under these seven categories

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[9] Abu Dhabi, for example, is building its own Louvre.

[10] $\mathrm{RCA1}_{\mathrm{i}}^{\mathrm{c}} = \frac{\mathrm{X}_{\mathrm{i}}^{\mathrm{c}}/\mathrm{XT}^{\mathrm{c}}}{\sum_{\mathrm{c}=1}^{\mathrm{m}} \mathrm{X}_{\mathrm{i}}^{\mathrm{c}}/\sum_{\mathrm{c}=1}^{\mathrm{m}} \mathrm{XT}^{\mathrm{c}}}$ Revealed Comparative Advantage or Balassa Index. X denotes exports in a sector, XT is total exports in a country, c (= 1…m) refers to countries and i (=1…n) refers to sectors. If RCA > 1, sector i in country c is said to have a comparative advantage in commodity or industry i, and vice versa.

Table 4		Art Crafts		Audio Visual			Design			New Media			Performing Arts			Publishing			Visual Arts	
1	Afghanistan	45.62	1	Canada	15.49	1	Pakistan	3.76	1	Hong Kong	4.95	1	Ireland	5.07	1	Canada	3.81	1	Zimbabwe	15.53
2	Moldova	9.46	2	Bulgaria	13.95	2	Hong Kong	3.59	2	China	3.82	2	Austria	4.94	2	Czech Rep.	3.16	2	Afghanistan	9.92
3	Tanzania	7.43	3	Italy	8.24	3	Viet Nam	3.37	3	Mexico	3.11	3	Sweden	3.18	3	Slovenia	2.93	3	Dominica R.	4.58
4	Turkey	6.72	4	Romania	3.66	4	Italy	3.10	4	Austria	2.64	4	Czech	3.16	4	Lebanon	2.86	4	U.K.	4.35
5	Pakistan	6.72	5	Argentina	2.58	5	China	3.08	5	Netherland	2.10	5	Netherlands	2.52	5	Sweden	2.40	5	Switzerland	3.83
6	China	4.20	6	Thailand	2.34	6	Dominican R.	2.49	6	Slovenia	2.04	6	Germany	2.36	6	Colombia	2.26	6	U.S.	2.66
7	Egypt	3.71	7	India	1.93	7	F. Polynesia	2.32	7	Czech	1.45	7	Singapore	1.80	7	Estonia	2.11	7	Rwanda	2.37
8	Viet Nam	3.27	8	U. K.	1.35	8	Lebanon	2.24	8	Germany	1.43	8	Luxembourg	1.61	8	U.K.	2.09	8	Palestine	2.01
9	Colombia	3.16	9	Tanzania	1.29	9	Lithuania	2.09	9	Latvia	1.42	9	Denmark	1.51	9	Serbia	2.00	9	China	1.58
10	Belgium	3.01	10	Greece	1.28	10	India	2.03	10	U.S.	1.26	10	U.K.	1.42	10	Belgium	1.81	10	France	1.55
11	El Salvador	2.51	11	Australia	1.16	11	Moldova	2.01	11	Macao	1.23	11	U. S.	1.29	11	Slovakia	1.76	11	Korea R.	1.06
12	Hong Kong	2.49	12	Lebanon	1.14	12	Romania	1.97		Bulgaria	0.75	12	Poland	1.22	12	Finland	1.66		Hong Kong	0.94
13	Latvia	2.05	13	Mauritius	1.06	13	Switzerland	1.95		Denmark	0.71	13	Lithuania	1.02	13	Poland	1.55		Pakistan	0.92
14	Madagascar	2.04		Spain	0.91	14	Palestinian	1.92		Bosnia & He.	0.61		France	0.93	14	Kenya	1.54		Viet Nam	0.82
15	India	1.99		Croatia	0.87	15	Turkey	1.85		Australia	0.59		Serbia	0.93	15	Hong Kong	1.50		Portugal	0.75
16	Palestinian	1.73		Armenia	0.83	16	Thailand	1.80		U.K.	0.59		Hong Kong	0.88	16	Spain	1.44		India	0.73
17	Korea	1.58		Mexico	0.82	17	U. A. E.	1.66		Slovakia	0.59		Bulgaria	0.84	17	France	1.44		Namibia	0.72
18	Sri Lanka	1.37		Portugal	0.66	18	Jordan	1.66		Singapore	0.58		Paraguay	0.82	18	Germany	1.43		Senegal	0.70
19	Taiwan, Cn.	1.35		Georgia	0.57	19	Poland	1.65		Sweden	0.42		Mexico	0.80	19	Italy	1.35		Bahamas	0.67
20	Philippines	1.23		France	0.55	20	Malta	1.45		Taiwan, Cn	0.39		Belgium	0.79	20	Peru	1.27		Canada	0.64
21	Thailand	1.20		Russia	0.55	21	Madagascar	1.42		Serbia	0.38		Tanzania	0.73	21	Austria	1.24		S. Africa	0.62
22	Estonia	1.17		U.S.	0.46	22	Armenia	1.42		Spain	0.34		Japan	0.71	22	Russia	1.17		Israel	0.59
23	Italy	1.13		Morocco	0.37	23	Denmark	1.42		Canada	0.29		Estonia	0.71	23	Switzerland	1.14		Singapore	0.58
24	Austria	1.12		N. Zealand	0.29	24	Bolivia	1.40		Lithuania	0.28		Hungary	0.71	24	Jordan	1.08		Belgium	0.57
25	Romania	1.11		Hong Kong	0.18	25	Estonia	1.39		Japan	0.25		Croatia	0.61	25	Lithuania	1.07		Zambia	0.57
26	Ecuador	1.03		Germany	0.17	26	Czech Rep.	1.26		Croatia	0.24		Macao SAR	0.61	26	Latvia	1.05		Italy	0.56
27	Bulgaria	1.01		Denmark	0.16	27	Bosnia & Hez.	1.25		Romania	0.22		Switzerland	0.58	27	Chile	1.05		Sri Lanka	0.52
	Mauritius	0.93		Belgium	0.16	28	Slovenia	1.23		Greece	0.21		Latvia	0.50	28	El Salvador	1.04		Germany	0.52
	Guatemala	0.91		U.A.E.	0.16	29	France	1.17		Barbados	0.20		Slovakia	0.47	29	U.S.	1.01		Philippines	0.50
	Portugal	0.90		Korea, Rep.	0.13	30	Malaysia	1.13		Ireland	0.19		Russia	0.45	30	Nigeria	1.00		Austria	0.49

Source: Computed from UNCTAD STATS Creative Economy Database

4. The Case of Bhutan, China and Egypt

The exclusive focus on the export of original RCA index (RCA1) has a serious limitation in the contemporary context where a significant and rising part of international trade takes the form of intra-industry trade. RCA2[11] the within-country RCA presents a measure which reveals a country or a sector's comparative advantage in generating net exports. In the context of Bhutan, Egypt and China[12], this section further applies the above approach (RCA1) but with more emphasis on intra-industry trade (G-L index), sectoral composition and trade partners. RCA2 is introduced here and further triangulation with G-L index. This is then followed by a discussion on relevant methodology and insights gained from related UNIDO missions to these countries and an outline for the ongoing research.

Table 5 Creative Goods (CG) Trade Dependency Ratio

Unit Million USD or Percentage	Bhutan	Egypt	China	Developing Economies	World
Total Export (X)	676	42,536	1,237,079	5,626,637	15,644,866
Total Import (M)	941	63,699	1,774,218	7,039,999	19,923,480
CG Export (X)	0.7	703	84,807	176,211	406,992
CG Import (M)	5.7	522	6,078	93,721	420,783
CG (X+M) Current Price (P)	6.4	1,225	90,885	269,933	827,775
GDP Current P & Exchange	1,245	164,844	4,416,104	17,289,154	61,146,661
Trade Dependency Ratio %	0.51	0.74	2.06	1.56	1.36
RCA1/Balassa Index[13]	0.04	0.64	2.64	1.20	1.00
RCA2/Within Country RCA2	0.17	2.02	20.01	2.35	1.32
Grubel-Lloyd (G-L) Index	22	85	13	69	98

Source: Calculated from 2008 trade flow matrix based on 2008 data from 2010 UNCTAD Stats Creative Economy database; GDP, export and import are based on UNCTAD Stats Economic Trends– current prices & exchange rates.

In terms of the structure of trade in creative goods reported in Table 5, both China and Egypt have achieved trade surplus (China: 78,728 million; Egypt: 181 million) whereas Bhutan shows trade deficit of 4.9 million. Geographically, Bhutan's land-locked geographical position tends to increase both transportation cost and transaction cost. For example, it is relatively expensive to send creative goods outside due to limited availability of flight and in the capital of Bhutan – Thimphu, retail terminal of two well known credit card providers were serviced from Nepal and have introduced a higher charge on using the terminal. Prevalence of cash economy, limited currency convertibility and high transaction cost posed

[11] $\mathrm{RCA2_i} = \frac{\mathrm{X_i/XT}}{\mathrm{M_i/MT}} = \frac{\mathrm{X_i/M_i}}{\mathrm{XT/MT}}$

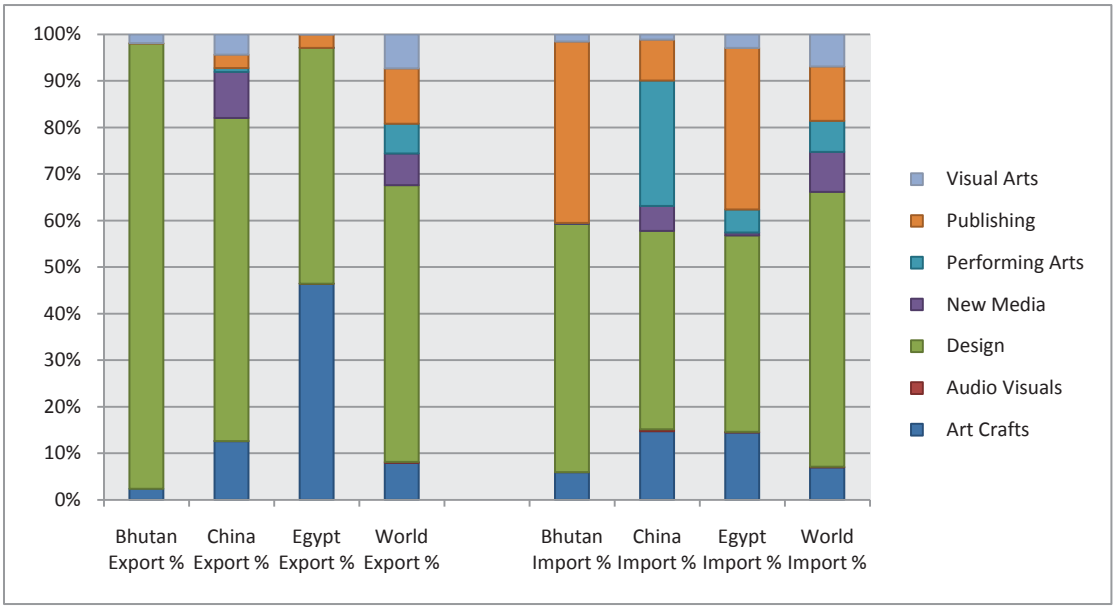
[12] For statistical purpose and following the convention of usage by UNCTAD stats, Chinese statistics only shows Chinese mainland with Hong Kong and Taiwan listed separately. All are measured in USD with unit in millions.

[13] X denotes exports in a sector, XT is total exports in a country, c (= 1…m) refers to countries and i (=1…n) refers to sectors. If RCA > 1, sector i in country c is said to have a comparative advantage in commodity or industry i, and vice versa. Where M_i and MT denote sectoral and total imports respectively. Theoretically, this index can vary between 0 and ∞. A value above unity indicates the sector's above-average ability to generate net exports and thus a comparative advantage over the other sectors in the external market.

by credit card companies and international courier services present supply side constraints which limit the growth potential of Bhutan in spite of huge potential of this country's unique tradition and culture strongly embodied in *Zorig Chusum* (thirteen traditional art crafts). The extent to which export and import statistics are reported by Bhutanese micro and small handicraft business is also likely to understate the size of CG export.

The table below depicts structural composition of seven main categories of CI trade in three countries and compares with the world average[14]. Close to half (46%) of Egypt's export in CG is based in art crafts.

Table 6 The Structure of Creative Goods Trade by Seven Main Category of CG (2008)



Source: computed from UNCTAD STATS Creative Economy

In all three countries, design constitutes the largest category of CG export and import. In terms of export, the share is, respectively, Bhutan (95.65%[15]), China (69.39%) and Egypt (50.64%). Internationally, China ranks first in terms of design export with a value of 58.84 billion in 2008. In Egypt, the share of design export is lower than the world average (59.45%). However, Egypt's art crafts export constitutes 46.42% of all CG export and is well above the world average for art crafts (7.94%) revealing its overall importance to Egypt's CG export. Egypt's RCA1 value for art crafts is 3.71 (rank 7th) suggesting enjoys strong comparative advantage in the presence of higher level of intra-industry trade revealed by G-L index (85, higher than

[14] UNCTAD (2011) stated that the data on creative economy tend to underestimate the size of creative economy. Triangulation is sought from demand side figure, i.e. the world's import from a given country when no data are present or when significant differences exist. However, caution is needed as import figure tends to be estimated CNF (Cost Freight and Insurance) whereas export figure is generally stated on a lower FOB (Free on Board) basis.

[15] There is no data on new media, performing arts and audio visual export reported by Bhutan in UNCTAD Stats. However, documentation and field insight revealed that Bhutan has an up and coming audio visual sector. Triangulated with the world's import suggests the world imported 779 thousand USD worth of film from Bhutan. The share of design export is over-estimated.

developing economies' average of 69. In contrast, Bhutan has lower than average share of export (2.37%) in art crafts due to the constraints mentioned above.

China's design export of which fashion, interiors and toys are three top performing product clusters (a share of 65.04% of all CI export and 93.74% of design export) have relatively high market shares in the world's export (fashion: 34.04%, interiors 25.42%, toys: 33.94%). However, top market shares of the world in China point to wickerware (78.67%) and celebration (54.29%) within art crafts. Egypt's carpet export is ranked highest to the world amongst all its CI export. Of Bhutan's 708 thousand USD export of all CI, jewellery which is valued at 660 thousand USD represents 93.22% of total CI export.

New media export from China (9.88%) is higher than the world average (6.82%). This is an area where China has made inroad into relatively concentrated market place given the already strong domestic demand which provide some degrees of industrial capability for global expansion. In terms of import, all three countries show net trade deficit in publishing and performing arts. In the case of Bhutan and Egypt, the gap in publishing is particularly large (Bhutan: -2.2 million; Egypt: -160 million) for trade deficit. China, on the other hand, has achieved a trade surplus of 1,884 million. Table 7 below summarizes three countries' key trading partners and concentration. Although does not shown as an entity, E.U. would have become top partners with both three countries. In all three countries, U.A.E. has entered into top ten trading partners.

Table 6 Trading Partner of Bhutan, China and Eygpt

Bhutan			**China**			**Egypt**		
X	M	X+M	X	M	X+M	X	M	X+M
U.A.E.	India	India	U. S.	Japan	U.S.	U.S.	China	China
Australia	Thailand	Thailand	H. K.SAR	U.S.	H. K. SAR	Saudi Arabia	U.S.	Saudi Arab.
U. S.	China	China	Japan	H.K. SAR	Japan	Italy	France	Italy
Nepal	Singapore	Singapore	Germany	Singapore	Germany	Libya	Turkey	U.K.
Viet Nam	H. K. SAR	U.A.E.	U. K.	Italy	U.K.	U.K.	Russia Fed.	France
Japan	Switzerland	H. K. SAR	Netherland	Taiwan	Netherland	U.A.E.	Italy	U.A.E.
Switzerland	Nepal	Switzerland	Russia Fed.	S. Korea	Italy	Netherland	Germany	Libya
Netherland	Malaysia	Nepal	Italy	Germany	Russia Fed.	France	U.K.	Germany
Canada	Viet Nam	Malaysia	Canada	France	Canada	Germany	Canada	Turkey
France	Japan	Viet Nam	U.A.E.	U.K.	France	Morocco	U.A.E.	Netherland
Bhutan's Trading Partner Concentration			**China's Trading Partner Concentration**			**Egypt's Trading Partner Concentration**		
X	M	X+M	X	M	X+M	X	M	X+M
Top 1 Country Partner Concentration			Top 1 Country Partner Concentration			Top 1 Country Partner Concentration		
56%	60%	56%	30%	13%	30%	16%	27%	16%
Top 5 Countries Partner Concentration			Top 5 Countries Partner Concentration			Top 5 Countries Partner Concentration		

62%	92%	62%	58%	43%	58%	46%	54%	46%
Top 10 Countries	Partner	Concentration	Top 10 Countries	Partner	Concentration	Top 10 Countries	Partner	Concentration
64%	98%	64%	70%	66%	70%	62%	74%	62%

Source: computed from UNCTAD STATS Creative Economy

5. Reflections on UNIDO missions to Bhutan, Egypt and China

While the motivation of this study is to reflect on the structure of creative economy and comparative advantage, it is hoped that current study might pave the way for future study in which more systematic modeling of the linkage between trade and IPR could become possible. There is a shortage of data on IPR for creative industries. UNCTAD STATS database group intellectual property as related industries and the data on IPR cannot be disaggregated into UNCTAD's classification of creative industries. Hence the research has not been able to provided evidences on the linkage between RCA and IPR which would only be available with more time and efforts finding a suitable concordance between WIPO based statistics measure and UNCTAD's ISTC/HS systems. One key issue encountered on IPR statistics for creative industries points to the difficulty to obtain HS or ISTC corresponding/concordance tables with IPR classification systems such as IPC and Lucanno. However, important as UNCTAD data as a tool for the analysis of international trade in creative industries, further insights are needed from the field to triangulate in the absence of data. This section, therefore, looks at issues which were identified during the missions to Bhutan, China and Egypt between 2009 and 2010.

Firstly, traditional knowledge are under appreciated and not utilized for business advantage. The protection mechanism for recording traditional knowledge remain weak; in certain cases such weakness give rise to infringement and exploitation by established business outside the community. There is also a sense of urgency as gradual substitution of traditional practices which are in general sustainable are replaced by industrial techniques, displacement of local production by outside forces leave little or no benefits to the indigenous communities.

Secondly, intellectual property rights in the form of trade mark and registered design rights are not recognized in local business practice due to the absence and equally high cost of obtaining services such as IPR registration agency and the absence of governmental supports in these areas - IPRs are considered as private benefits by the government, hence an absence of owner in the case of indigenous knowledge. In the case of China, the government did provide some supports though not linked to creative industries in the registration of geographical indicators (in agri-food) but such cases are limited.

In regards to both issues, one possible solution is to design a regional system of intellectual property rights to reflect culture and diversity with IPR as a public good for community ownership and development. For example, using collective marks and group registration to differentiate regional and

ethnic characteristics, hence creating unique selling points (USP) through differentiation for ethnic art crafts. This requires both advocacy and policy action on the part of the government and careful institutional redesign of existing support processes. More effective mechanism would depend on the building of a sustainable bottom up ownership structure which allows communities ownership and business active participation, with limited but important regional and central government supports in the provision of business development services such as IPR registration agencies which are largely absent in underdeveloped regions.

In terms of business aspects, although there is no clear evidence that IPR can increase sales. The absence of IPR might be a reason for under-performance. Where B2B is the predominant mode in the supply chain for creative goods, trade margin for B2B (Business to Business) transaction remains low because of downward pressure and restrictive business practices exercised by the intermediary - making both individual pricing and branding difficult and resulting in difficulty to move up the value chain. This is due to strong bargaining power of the buyer (middle men and women) and weak bargaining power of the suppliers (in negotiating selling price, or economising on bulk purchase) but can be ameliorated by creating new forward linkages (B2C) directed to the final consumers, and creating group procurement in the form of trade association. If however capacity for forward linkages are lacking, the intermediary business model will continue to dominate and not much marketing can be developed which IPR relies on.

B2C (Business to Consumer) demand varies by product. However, overall potential for e-commerce remains weak, which might otherwise create more direct 'trickle down' effects to the producers (bypassing middle men and women). Detailed studies are needed to design transaction platforms, common standards and capacity to enhance B2C transactions, as well as local and international delivery mechanism and overall logistics. Generally, there is only a small volume of B2G (Business to Government) transaction where the government action can make a visible difference. This should be advocated by buying gifts and supplies from local business hence improving local capacity. New product design is needed to look into this as well as possible change of procurement practices by local government to increase accessibility.

6. Towards a Holistic Interpretation of Creativity and Development

For the future work, a more rigorous assessment of the competitiveness and sustainability of a country's creative sector require a careful examination of the sector's own productive characteristics, factor contents and intensity as well as its dynamic interactions with the rest of the economy in addition to the historical comparative advantages that the country enjoys over its main international competitors. However, due to the relatively short history of economic analysis of this sector and thus the general paucity of data at the firm and industry level, a comprehensive assessment is beyond the remit of this study. The focus of future research should seek to further quantify the link and impact between IPR

penetration and revealed comparative advantage which this paper has partially developed.

Other challenges remain, for example, the lack of sector specific data on factor inputs into the creative sector precludes the traditional international trade approach to the sources of industrial competitiveness and trade specialization. International occupational matrixes for creative industries are needed from leading organization such as ILO. In terms of theories, the distinct characteristics of the creative sector can often render the traditional theories of comparative advantage less applicable than in the manufacturing industries where the theories are usually applied and tested. Therefore, the direction of future study can focus on how such comparative advantages are related to the industrial organisation of the creative sector in comparison with the other domestic industries, how much value are created by IPR in the value chain for different creative products.

Internationally, the study of the link between IPR penetration and RCA should help the government to decide what sector specific strategy should be pursued where there are already strong comparative advantage but weak IPR penetration to the partner. In terms of development benefits, a more holistic approach needs to be developed not to construe creative industries too narrowly. Indeed, the linkage with other sectors of the economies, for example, tourism and agro-food sectors should be allowed to be included flexibly to address local development needs depending on the communities concerned. Returning to the statement in the beginning that the concept of creative 'industries' offers a new lens through which one can examine and capture 'kaleidoscopic' combination and recombination of human ingenuity and organization. In as far as the concept of creative industries is concerned, definitional and classification differences should not over-write more important development goals such poverty alleviation and sustainable livelihood creation.

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Appendix 1: UNCTAD CG Classification and Data Reporting Structure in Bhutan China and Egypt

Category	Sub-group	Sub-Code	Description	Bhutan		China		Egypt	
				X	M	X	M	X	M
Art Crafts 60 codes	Carpets	17	Carpets of wool or other fine animal hair, cotton, coconut fibres and other plant fibre, knotted or woven	x	x	x	x	x	x
	Celebration	2	Articles for Christmas, festivities, carnivals, etc.	x	x	x	x	x	x
	Other	6	Candles, tanned or dressed fur skins, artificial flowers, wood marquetry, etc.	o	x	x	x	x	x
	Paperware	1	Handmade paper.	x	x	x	x	x	x
	Wickerware	4	Plaits, mats, basketwork, wickerwork, etc.	x	x	x	x	x	x
	Yarn	30	Handmade lace, hand-woven and needlework rugs, embroidery, bed linen, man-made or printed, knitted or crocheted materials, etc.	x	x	x	x	x	x
Audio Visuals 2 codes	Film	2	This subgroup has 2 codes; only 2 types of exposed cinematographic film are included in this subgroup.	o	x	x	x	x	x
Design 102 codes	Architecture	1	Original drawings for architectural plans.	o	x	x	x	x	x
	Fashion	37	Handbags, belts, accessories (ties, shawls, scarves, gloves, hats, hairpins, etc), sunglasses, headgear, leather goods, etc. Clothing and shoes are not included.	x	x	x	x	x	x
	Glassware	5	Table/kitchenware, drinking glass made with crystals.	o	x	x	x	x	x
	Interior	32	Furniture (living room, bedroom, kitchen, bathroom), tableware, table linen, wallpaper, porcelain, lighting sets, etc.	x	x	x	x	x	x
	Jewellery	10	Articles of jewellery made from gold, silver, pearls and other precious metals as well as imitation jewellery.	x	x	x	x	x	x
	Toys	17	Dolls, wheeled toys, electric trains, puzzles, games, etc.	o	x	x	x	x	x
New Media 8 codes	Recorded Media	6	This subgroup has 8 codes: 6 code for recorded media for sound and image, and 2 codes for video games.	o	o	o	o	o	o
	Video Games	2	This subgroup has 8 codes: 6 code for recorded media for sound and image, and 2 codes for video games.	o	x	x	x	x	x
Performing Arts 7 codes	Music (CD, Tapes)	6	Has 7 codes. It covers 6 types of recorded laser discs and recorded magnetic tapes as well as printed or manuscript music.	o	x	x	x	x	x
	Printed Music	1	Has 7 codes. It covers 6 types of recorded laser discs and recorded magnetic tapes as well as printed or manuscript music.	o	x	x	x	o	x
Publishing 15 codes	Books	4	Books, dictionaries, encyclopedias, brochures, leaflets, children's drawing and colouring books and other printed matter.	x	x	x	x	x	x
	Newspaper	3	Newspapers, journals and periodicals.	o	x	x	x	x	x
	Other Printed Matter	8	Maps, brochures, postcards, calendars, advertising materials, etc.	o	x	x	x	x	x
Visual Arts 17 codes	Antiques	3	Antiques more than 100 years of age.	o	x	x	x	x	o
	Paintings	3	Paintings, pastels executed by hand, wooden frames for paintings.	x	x	x	x	x	x
	Photography	4	Photographic plates for offset reproduction; photographic film and microfilms, exposed and developed.	o	x	x	x	x	x
	Sculpture	7	Statuettes and other ornamental articles of wood, porcelain, ceramics, ivory or other metals, worked carving materials.	x	x	x	x	x	x

Source: Author's calculation based on UNCTAD Stats Creative Economy database; o means data not available and x means data available.

Appendix 2: Regional Arrangement for Creative Goods Trade

Bhutan		Egypt		China	
X	M	X	M	X	M
GCC	APTA	APEC	APEC	EU	APEC
APEC	SAARC	FTAA	EU	APEC	APTA
FTAA	APEC	NAFTA	APTA	GCC	EU
EU	ASEAN	EU	FTAA	FTAA	FTAA

Source: Asia-Pacific Trade Agreement (APTA) (Former Bangkok Agreement), South Asian Association for Regional Cooperation (SAARC), Asia-Pacific Economic Cooperation (APEC), Association of South-East Asian Nations (ASEAN), Gulf Cooperation Council (GCC), Free Trade Area of the Americas (FTAA), North American Free Trade Agreement (NAFTA).

Appendix 3: Trade Dependency Ratio for 103 Countries (2008)

	TD-CGS	TD-CG	TD-S		TD-CGS	TD-CG	TD-S
Hong Kong SAR	0.293	0.291	0.002	Nether. Antilles	0.030	0.026	0.004
Malta	0.252	0.036	0.216	Barbados	0.030	0.030	0.000
Netherlands	0.087	0.026	0.062	Mauritius	0.030	0.024	0.006
Ireland	0.083	0.018	0.066	Jamaica	0.030	0.022	0.008
Belgium	0.069	0.035	0.034	New Caledonia	0.028	0.011	0.017
Hungary	0.059	0.017	0.042	Portugal	0.028	0.014	0.015
Singapore	0.057	0.054	0.002	Poland	0.028	0.017	0.011
Czech Republic	0.056	0.040	0.016	Guyana	0.028	0.021	0.007
Slovenia	0.052	0.031	0.021	Romania	0.027	0.016	0.011
Moldova	0.051	0.047	0.005	Albania	0.027	0.013	0.015
Estonia	0.050	0.033	0.017	Norway	0.026	0.009	0.017
Luxembourg	0.048	0.018	0.030	Italy	0.025	0.018	0.007
Switzerland	0.047	0.047	0.000	Bosnia & Herzegovina	0.025	0.025	0.001
Croatia	0.044	0.020	0.024	Spain	0.024	0.011	0.013
Bulgaria	0.042	0.022	0.020	Tunisia	0.024	0.023	0.001
Slovakia	0.040	0.027	0.013	Papua New Guinea	0.024	0.023	0.001
Cyprus	0.039	0.021	0.018	United Kingdom	0.023	0.019	0.004
Malaysia	0.039	0.020	0.019	Dominica	0.023	0.021	0.002
Fr. Polynesia	0.038	0.025	0.012	Algeria	0.023	0.002	0.022
Macedonia	0.038	0.013	0.025	Namibia	0.023	0.018	0.005
Latvia	0.037	0.022	0.016	Occupied Palestinian	0.023	0.011	0.012
Austria	0.036	0.032	0.003	Ukraine	0.022	0.010	0.013
Germany	0.036	0.017	0.019	China	0.022	0.021	0.001
Serbia	0.034	0.013	0.020	Kazakhstan	0.021	0.005	0.016
Lithuania	0.031	0.026	0.004	Cambodia	0.021	0.020	0.001
Canada	0.030	0.016	0.015	Sweden	0.020	0.019	0.001

N.B. CGS (Creative Goods and Services), CG (Creative Goods), S (Services). Computed from UNCTAD Stats Creative Economy Database. Highlighted in blue are those with above average share.

Appendix 4 (Continue from the above): Trade Dependency Ratio in 103 Countries (2008)

	TD-CGS	TD-CG	TD-S		TD-CGS	TD-CG	TD-S
Korea, Repub.	0.020	0.010	0.010	Mexico	0.011	0.011	0.001
Bahamas	0.019	0.015	0.004	Colombia	0.011	0.006	0.005
Belarus	0.019	0.014	0.005	Bolivia	0.011	0.010	0.001
India	0.018	0.009	0.009	Chile	0.009	0.008	0.001
Ghana	0.018	0.013	0.005	Brazil	0.009	0.002	0.007
France	0.017	0.014	0.003	Egypt	0.009	0.007	0.002
New Zealand	0.017	0.012	0.005	Venezuela	0.008	0.005	0.003
El Salvador	0.017	0.016	0.000	United Rep. Tanzania	0.008	0.007	0.001
Georgia	0.017	0.011	0.006	Guinea	0.008	0.005	0.003
Turkey	0.016	0.012	0.004	South Africa	0.007	0.007	0.000
Costa Rica	0.016	0.013	0.002	Philippines	0.007	0.006	0.001
Australia	0.015	0.008	0.007	Senegal	0.007	0.006	0.001
Dominican Repu	0.015	0.009	0.007	Kenya	0.007	0.006	0.000
Cape Verde	0.015	0.010	0.006	Rwanda	0.007	0.006	0.001
Mozambique	0.015	0.006	0.010	Japan	0.006	0.005	0.001
Belize	0.014	0.010	0.005	Uruguay	0.006	0.006	0.001
Morocco	0.014	0.011	0.003	Mali	0.006	0.005	0.001
Iceland	0.013	0.012	0.001	Ethiopia	0.005	0.003	0.002
Russian Federation	0.013	0.004	0.009	Côte d'Ivoire	0.004	0.003	0.001
Armenia	0.013	0.010	0.004	Nigeria	0.003	0.003	0.000
Guatemala	0.013	0.012	0.000	Niger	0.003	0.003	0.000
Pakistan	0.013	0.011	0.001	Azerbaijan	0.002	0.001	0.000
Finland	0.012	0.011	0.000	Peru	0.002	0.002	0.000
Argentina	0.012	0.004	0.008	Sudan	0.002	0.002	0.000
United States	0.011	0.009	0.002	Yemen	0.002	0.002	0.000

N.B. CGS (Creative Goods and Services), CG (Creative Goods), S (Services). Computed from UNCTAD Stats Creative Economy Database.