

1 Appendix

The data set used in the study is shown below.

Table 1. Data set of The Practical Part(1)

Countries	Variables	2005	2006	2007	2008	2009	2010	2011	2012
CHINA	GII							46,43	45,4
	HTE			30,1508	29,36366	31,93779	32,12365	30,48393	30,84868
	R&D EXPENDITURES	1,30792	1,36854	1,37369	1,44592	1,6648	1,71372	1,78034	1,91214
	TOTAL PATENTS	93485	122318	153060	194579	229096	293066	415829	535313
	GDP	11,39459	12,72096	14,23086	9,650679	9,398726	10,63587	9,550832	7,863736
JAPAN	GII							50,32	51,7
	HTE			20,01903	18,7855	20,40424	19,08106	18,34932	18,20157
	R&D EXPENDITURES	3,18099	3,27844	3,3396	3,33718	3,2314	3,13708	3,24477	3,20908
	TOTAL PATENTS	367960	347060	333498	330110	295315	290081	287580	287013
	GDP	1,803901	1,37235	1,483969	-1,22429	-5,69324	4,097918	0,02381	1,374751
GERMANY	GII							54,89	56,2
	HTE			15,45554	15,07046	16,78982	16,88486	16,33754	17,22154
	R&D EXPENDITURES	2,44193	2,47232	2,46048	2,61513	2,74266	2,73024	2,80555	2,88166
	TOTAL PATENTS	48367	48012	47853	49240	47859	47047	46986	46620
	GDP	0,731707	3,816442	2,976455	0,959879	-5,69384	4,179882	3,925193	0,418498

Table 2. Data set of The Practical Part(2)

Countries	Variables	2013	2014	2015	2016	2017	2018	2019
CHINA	GII	44,66	46,57	47,47	50,57	52,54	53,06	54,82
	HTE	31,57436	29,69541	30,42194	30,24264	30,90724	31,4675	30,78337
	R&D EXPENDITURES	1,99786	2,02243	2,05701	2,10033	2,11603	2,14058	
	TOTAL PATENTS	704936	801135	968252	1204981	1245709	1393815	1243568
	GDP	7,76615	7,425764	7,041329	6,848762	6,947201	6,749774	5,949714
JAPAN	GII	52,23	52,41	53,97	54,52	54,72	54,95	54,68
	HTE	17,72721	17,75128	18,01897	17,59211	17,56551	17,26924	17,00016
	R&D EXPENDITURES	3,31496	3,40022	3,28165	3,15786	3,20798	3,27512	
	TOTAL PATENTS	271731	265959	258839	260244	260292	253630	245372
	GDP	2,0051	0,296206	1,560627	0,753827	1,675332	0,558851	0,270305
GERMANY	GII	55,83	56,02	57,05	57,94	58,39	58,03	58,19
	HTE	17,29433	17,20602	17,82123	18,07933	15,80791	15,74446	16,38465
	R&D EXPENDITURES	2,83599	2,87784	2,93003	2,94099	3,06792	3,13267	
	TOTAL PATENTS	47353	48154	47384	48480	47785	46617	46632
	GDP	0,437591	2,209543	1,491932	2,23	2,680231	1,086025	1,055508

Table 3. Data set of The Practical Part (3)

Countries	Variables	2005	2006	2007	2008	2009	2010	2011	2012
GREECE	GII							34,18	35,3
	HTE			9,113217	10,84962	12,22523	11,59453	11,25014	10,14318
	R&D EXPENDITURES	0,57896	0,56118	0,57655	0,66183	0,62557	0,59838	0,67196	0,69957
	TOTAL PATENTS	462	532	575	628	698	728	721	628
	GDP	0,599142	5,652434	3,273747	-0,33517	-4,30073	-5,47863	-10,1493	-7,0867
TURKEY	GII							34,11	34,1
	HTE			2,138261	1,837563	2,005525	2,194655	2,110565	2,154743
	R&D EXPENDITURES	0,56931	0,55749	0,69182	0,69292	0,8094	0,79892	0,79988	0,83217
	TOTAL PATENTS	928	1072	1810	2221	2555	3180	3885	4434
	GDP	8,992305	6,947988	5,043508	0,815025	-4,82315	8,427104	11,20011	4,788493

Table 4. Data set of The Practical Part (4)

Countries	Variables	2013	2014	2015	2016	2017	2018	2019
GREECE	GII	37,71	38,95	40,28	39,75	38,85	38,93	38,9
	HTE	8,467576	11,49629	12,90897	13,70957	12,10896	12,94978	12,51482
	R&D EXPENDITURES	0,81131	0,8333	0,96121	0,99394	1,13109	1,17732	
	TOTAL PATENTS	698	651	550	606	498	430	356
	GDP	-2,516	0,475696	-0,19609	-0,48717	1,092149	1,668429	1,803595
TURKEY	GII	36,03	38,2	37,81	39,03	38,9	37,42	36,95
	HTE	3,130233	3,379641	3,436024	3,038096	3,232696	2,673519	3,028138
	R&D EXPENDITURES	0,81821	0,86077	0,8815	0,94464	0,95978		
	TOTAL PATENTS	4392	4766	5352	6230	8175	7156	7871
	GDP	8,485817	4,939715	6,084487	3,323084	7,501997	2,979885	0,889585