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A Competitiveness Index for Turkish Regions

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Deloitte.

Executive summary : A Competitiveness Index for Turkish Regions

1. Overview

The basic motive behind the creation of a city-level competitiveness index is to contribute to the enhancement of the competition capacity of the cities, and to determine and highlight the appropriate public policies. Thus the index is important not only for policy makers, but also for those who are planning to invest in the region and who look for ways to enter regional markets

There is more to the concept competitiveness than mere economics. There are several components of competitiveness, and it cannot be induced to a single factor such as the value of the country's currency. Any improvement in the index is likely to attract capital and investment to the regions. The recent approach to competitiveness, developed mostly by Porter equates it with productivity, to be calculated not only as the economics of input and output, but also in its ability to attract investment, the productivity of these later investments, and in their overall contribution to the productivity itself.[1] This definition constitutes a dynamic and comprehensive approach. On a broader basis, competitiveness on regional level is "a region's ability to attract well-established firms or firms with growing market share and also its ability to increase the life standards of those who participate in the activities of these firms."[2] Such a comprehensive and dynamic definition links competitiveness index and productivity to greater sustainable wealth for region's people.

The comprehensiveness of the index stems from its multiple constituents. This study starts with six different indexes and arrives at a final index, which covers all of them in a single unit. Following is the list of various variables of the sub-indexes. The first figure and first table show the geographic distribution of regional competitiveness index. One of the most striking aspects of Turkey's regional competitiveness index is the huge gap between the east and the west of the country in all of the six sub-indexes. The findings reveal that the area from the Thrace to Ankara corresponds to the top %20 of the regional competitiveness index. İzmir from the west and Antalya and Muğla from the south also add up to this area in their competitiveness performance while the

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[1] Porter, Michael E. "The Competitive Advantage of Nations," *Harvard Business Review*, March-April 1990, s. 72-73

[2] Storper, M. *The Regional World*. New York: Guilford Press, 1997, 264

Eastern and Southeastern provinces stay well below the Turkish average. Nine cities at the bottom of the index are either Eastern or Southeastern cities. Thus, geographic division of the regional competitiveness index runs on the East-West axis. Three cities from the axis, consequently Ankara, Istanbul and Izmir, take the first three ranks of the index and their peripheral cities also take advantage of the first three's position to develop their competitiveness capacity, and thus further enhance the performance of this area.

Economic Activity
GDP per capita
Unemployment rate
Growth in capital
Productivity in agriculture
Productivity in industry
Productivity in service sector
Bank credits- GDP Ratio
Number of Employees per firm
Agricultural production value per acre
Number of firms opened per person
SMEs incentives-investment rate

Labour Market
Rate of the those aged 15-24 to the population
Unemployment rate
Participation in the Workforce
Ratioof workforce to population
Rate of women's participation to the workforce
Urban Unemployment Rate
Rate of Urban Women's Participation in the workforce
Share of agriculture in employment
Net Migration Rate

Creativeness
Technical staff per 100 people
R & D input-output, public
R & D input-output, private

Academic publication per person
Approved patents per person
Applied patents per person

Human Capital

Teacher/Student, Kindergarten
Teacher/Student, Primary education
Teacher/Student, Secondary Education
Teacher/Student, University
School finishing year average
Literacy Rate
Success in the University Entrance Exam

Social Capital

Size of households
Number of Doctors per person
Number of cinemas per person
Newspaper Circulation per person
Schooling rate for Girls
Civil society organizations per person
Electric Consumption of Households per person
Net Migration Rate
Literacy Rate

Physical Infrastructure

Asphalt Roads per Km^2
Railways per Km^2
Load of Airway per person
Number of airway passengers per person
Number of Automobiles per Person
Number of Commercial Vehicles per person
ADSL connections per person
Ratio of industrial electricity utilization to total electricity consumption
Adequacy of Waste Water Treatment
Adequacy of Solid Waste Treatment

Accordingly the results of the model and the methodology can be tabled as follows.

Figure 1: Competitiveness Index, Distribution According to Segments of %20
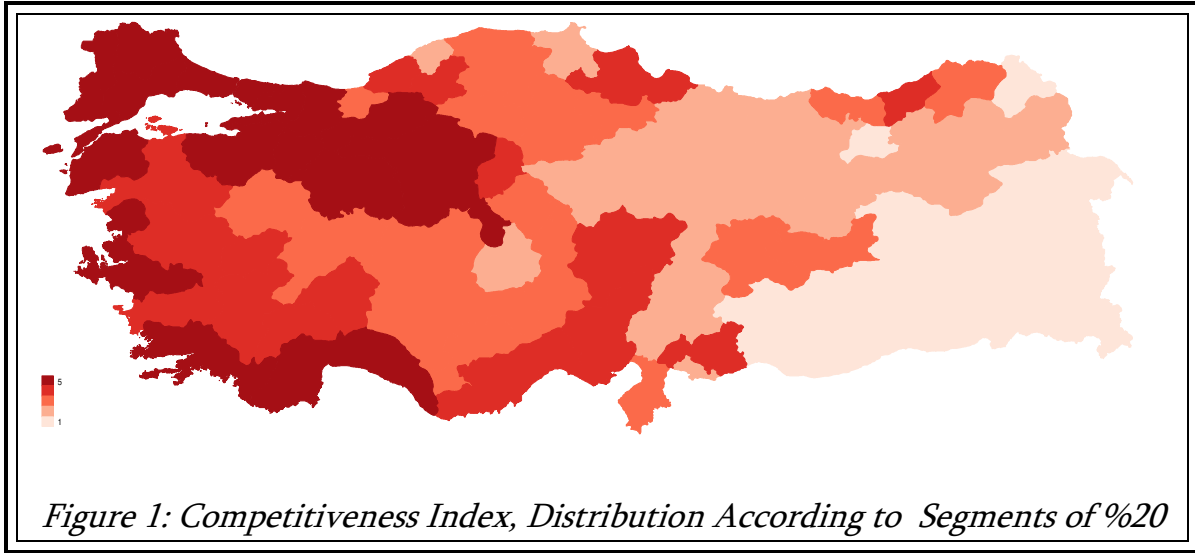
Sıra		Endeks Değeri	Sıra		Endeks Değeri	Sıra		Endeks Değeri
1	Ankara	100.0	28	Uşak	56.8	55	Bartın	43.3
2	İstanbul	97.8	29	Rize	55.4	56	Sinop	43.2
3	İzmir	87.3	30	Kırıkkale	55.2	57	Erzincan	42.7
4	Kocaeli	80.8	31	Samsun	55.2	58	Ordu	41.0
5	Eskişehir	80.5	32	Gaziantep	55.1	59	Tokat	40.9
6	Bursa	78.8	33	Kütahya	54.6	60	Tunceli	40.5
7	Yalova	74.6	34	Trabzon	54.0	61	Kilis	39.5
8	Muğla	74.1	35	Konya	52.7	62	Aksaray	39.0
9	Tekirdağ	73.5	36	Düzce	52.3	63	Gümüşhane	35.6
10	Antalya	71.1	37	Artvin	52.2	64	Yozgat	34.1
11	Çanakkale	69.1	38	Elazığ	50.9	65	Kars	32.9
12	Bilecik	68.4	39	Karaman	50.1	66	Bayburt	32.4
13	Kırklareli	67.1	40	Hatay	50.0	67	Diyarbakır	32.1
14	Edirne	66.9	41	Malatya	49.9	68	Adıyaman	32.1
15	Bolu	66.4	42	Amasya	49.5	69	Batman	28.1
16	Sakarya	64.7	43	Nevşehir	48.7	70	Iğdır	28.1
17	Denizli	64.4	44	Kastamonu	48.6	71	Siirt	25.6
18	Balıkesir	64.1	45	Çankırı	48.4	72	Van	25.2
19	Zonguldak	62.5	46	Çorum	48.2	73	Ardahan	25.0
20	Kayseri	62.4	47	Niğde	48.0	74	Şanlıurfa	24.9
21	Isparta	60.8	48	Afyon	47.0	75	Bingöl	24.0
22	Adana	60.4	49	Kırşehir	46.6	76	Mardin	22.7
23	Aydın	60.3	50	Giresun	44.4	77	Şırnak	22.1
24	Karabük	59.5	51	K. Maraş	44.2	78	Bitlis	21.6
25	Mersin	59.5	52	Sivas	44.1	79	Hakkari	21.0
26	Manisa	59.1	53	Erzurum	43.8	80	Ağrı	14.8
27	Burdur	57.6	54	Osmaniye	43.8	81	Muş	14.7

Table 1: Regional Competitiveness Index

2.Economic Activity

The first sub-index is economic activity, which is usually taken as the first sign of competitiveness. In this index, İstanbul, Kocaeli and İzmir take place at the top of the list. While the top three cities owe their place mostly to industrial production, Rize, surprisingly comes fourth owing to its high agricultural activity and productivity. Antalya, Bursa and Yalova score above the country average for the same reason with Rize. Ağrı and Ardahan are at the bottom of the index.


Figure 2: Economic Activity Index, Distribution According to Segments of %20
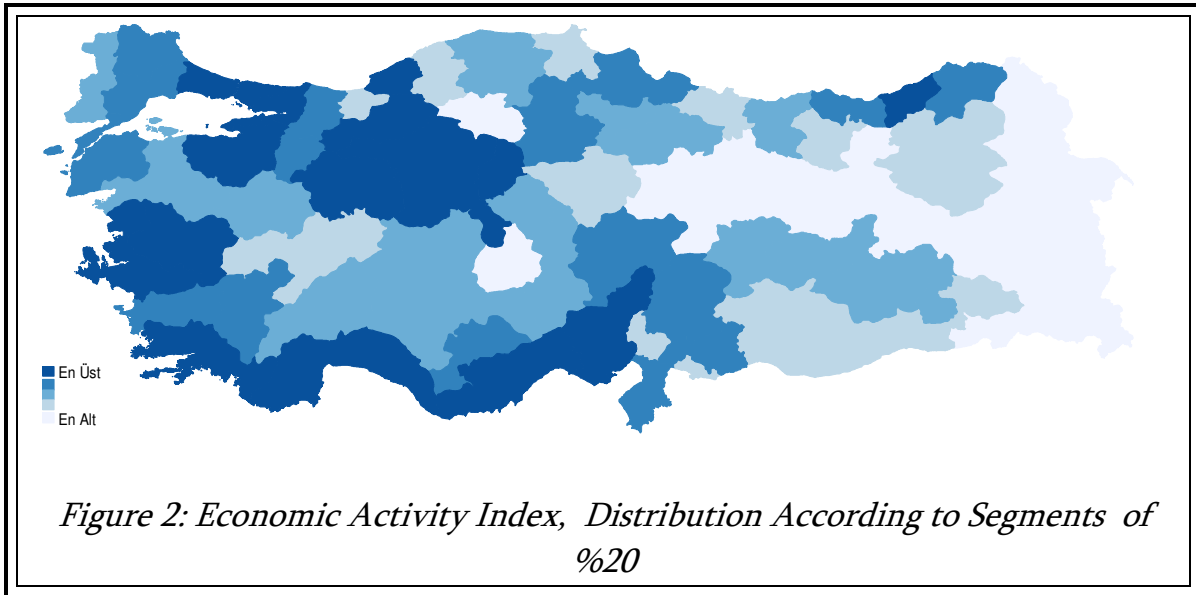
Rank		Index Value	Rank		Index Value	Rank		Index Value
1	İstanbul	100.0	28	Hatay	50.9	55	Karabük	33.9
2	Kocaeli	93.0	29	Denizli	50.5	56	Afyon	33.9
3	İzmir	87.2	30	Çanakkale	50.1	57	Siirt	32.8
4	Rize	79.6	31	K. Maraş	49.5	58	Sinop	32.3
5	Mersin	78.0	32	Kayseri	48.2	59	Kilis	32.3
6	Bolu	75.6	33	Elazığ	47.6	60	Mardin	32.2
7	Yalova	74.7	34	Edirne	47.1	61	Düzce	30.1
8	Bursa	74.3	35	Malatya	46.6	62	Erzurum	29.5
9	Ankara	72.4	36	Balıkesir	45.5	63	Gümüşhane	29.1
10	Antalya	70.1	37	Isparta	45.3	64	Yozgat	27.8
11	Zonguldak	69.5	38	Batman	44.3	65	Bartın	26.8
12	Adana	69.5	39	Giresun	43.8	66	Hakkari	25.7
13	Muğla	67.6	40	Kastamonu	43.6	67	Sivas	24.9
14	Kırıkkale	65.3	41	Nevşehir	43.5	68	Van	24.5
15	Eskişehir	59.4	42	Diyarbakır	43.4	69	Çankırı	24.3
16	Manisa	59.3	43	Tokat	42.6	70	Aksaray	23.6
17	Gaziantep	57.9	44	Konya	40.3	71	Erzincan	23.5
18	Aydın	55.7	45	Kütahya	39.6	72	Bayburt	23.5
19	Tekirdağ	55.6	46	Kırşehir	39.4	73	Bitlis	20.9
20	Artvin	55.5	47	Niğde	39.4	74	Bingöl	17.5
21	Çorum	53.4	48	Amasya	39.4	75	Kars	17.2
22	Karaman	53.2	49	Burdur	38.8	76	Tunceli	16.6
23	Sakarya	53.0	50	Osmaniye	38.1	77	Iğdır	15.3
24	Kırklareli	52.4	51	Ordu	36.5	78	Şırnak	13.0
25	Trabzon	51.8	52	Şanlıurfa	35.2	79	Muş	11.6
26	Bilecik	51.3	53	Adıyaman	35.0	80	Ardahan	9.2
27	Samsun	50.9	54	Uşak	34.5	81	Ağrı	8.7

Table 2: **Economic Activity Index**

3. Labour Markets

The Labour market index complements in many ways the economic activity index. Turkey has been suffering from the phenomenon of jobless growth, in other words economic growth combined with a growth in unemployment rates. The labor market index, as an indicator of the labor market flexibility and efficiency is key to analyzing regional unemployment and the phenomenon of jobless growth. In terms of the performance of the labour market, İstanbul, Ankara and İzmir are at the top of the list, while Muş and Ağrı come the last. Denizli comes the first in women's participation to workforce with %31, while Gaziantep is %15.5 below the Turkish avarege with its % 10 performance.


Figure 3: Labour Market Index, Distribution According to Segments of %20
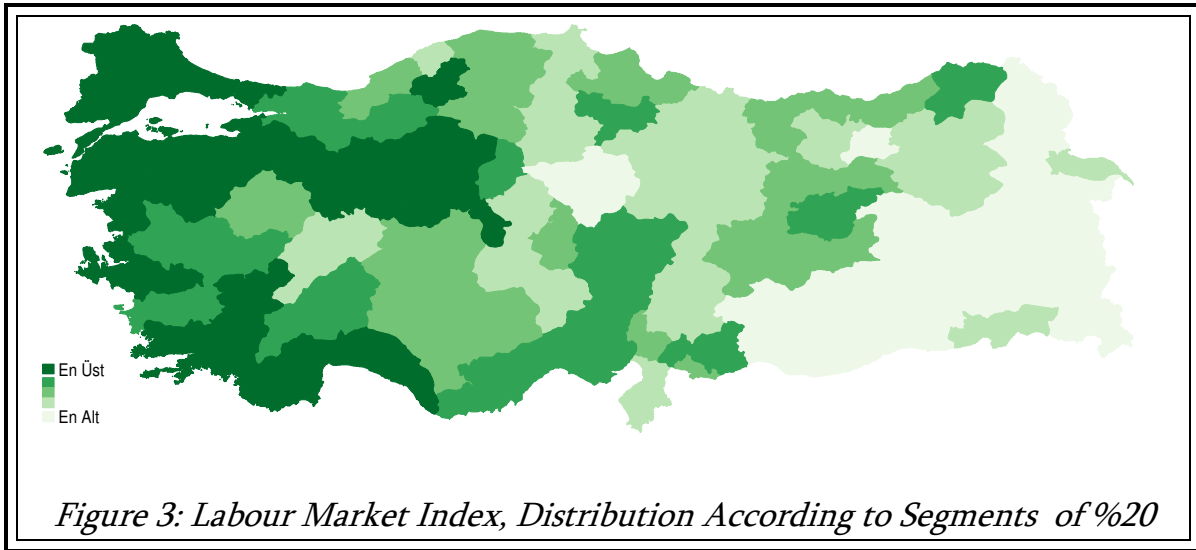
Rank		Index Value	Rank		Index Value	Rank		Index Value
1	İstanbul	100.0	28	Mersin	64.3	55	Sivas	51.2
2	Ankara	95.9	29	Kırıkkale	64.2	56	Hatay	50.6
3	İzmir	90.9	30	Amasya	63.6	57	Erzurum	50.0
4	Tekirdağ	88.0	31	Tunceli	63.4	58	K. Maraş	49.8
5	Eskişehir	87.8	32	Bolu	63.2	59	Ordu	49.0
6	Bursa	87.6	33	Düzce	62.4	60	Sinop	48.9
7	Antalya	79.6	34	Karaman	60.9	61	Şırnak	48.7
8	Bilecik	79.5	35	Konya	60.6	62	Bartın	47.4
9	Yalova	79.4	36	Çankırı	60.1	63	Tokat	45.9
10	Karabük	77.3	37	Kilis	60.0	64	Gümüşhane	43.7
11	Kırklareli	76.1	38	Zonguldak	59.4	65	Iğdır	42.0
12	Muğla	76.0	39	Trabzon	58.6	66	Hakkari	41.9
13	Çanakkale	75.6	40	Elazığ	58.4	67	Yozgat	41.4
14	Edirne	75.1	41	Erzincan	58.3	68	Diyarbakır	41.0
15	Balıkesir	74.7	42	Malatya	57.8	69	Batman	40.4
16	Denizli	74.4	43	Kütahya	57.5	70	Kars	39.9
17	Kocaeli	74.2	44	Rize	57.4	71	Bitlis	39.5
18	Kayseri	70.5	45	Osmaniye	57.1	72	Siirt	38.4
19	Gaziantep	69.8	46	Samsun	56.7	73	Bayburt	38.1
20	Adana	69.5	47	Giresun	56.4	74	Adıyaman	36.6
21	Burdur	68.7	48	Kastamonu	55.0	75	Şanlıurfa	36.5
22	Aydın	67.8	49	Nevşehir	55.0	76	Bingöl	35.0
23	Isparta	67.0	50	Kırşehir	54.8	77	Ardahan	34.3
24	Sakarya	66.9	51	Çorum	54.0	78	Van	34.3
25	Manisa	66.8	52	Niğde	53.2	79	Mardin	33.0
26	Uşak	65.9	53	Aksaray	52.4	80	Ağrı	26.9
27	Artvin	64.6	54	Afyon	51.4	81	Muş	21.1

Table 3: Labour Markets Index

4. Human Capital

In some cases, the contribution of human capital to productivity, thus to overall welfare, is higher than other economic inputs. Interestingly, in the human capital index Istanbul takes the 11th rank, among other things, on account of its underperformance in key education indicators. For instance in Istanbul, the number of students per teacher is identical to the ratio in Eastern cities of Turkey. Contrary to expectations, Gaziantep also stays well below the Turkey average. Şırnak is at the bottom of human capital index, while Ankara, Eskişehir and Çanakkale take the first three ranks.


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Figure 4: Human Capital Index, Distribution According to Segments of %20
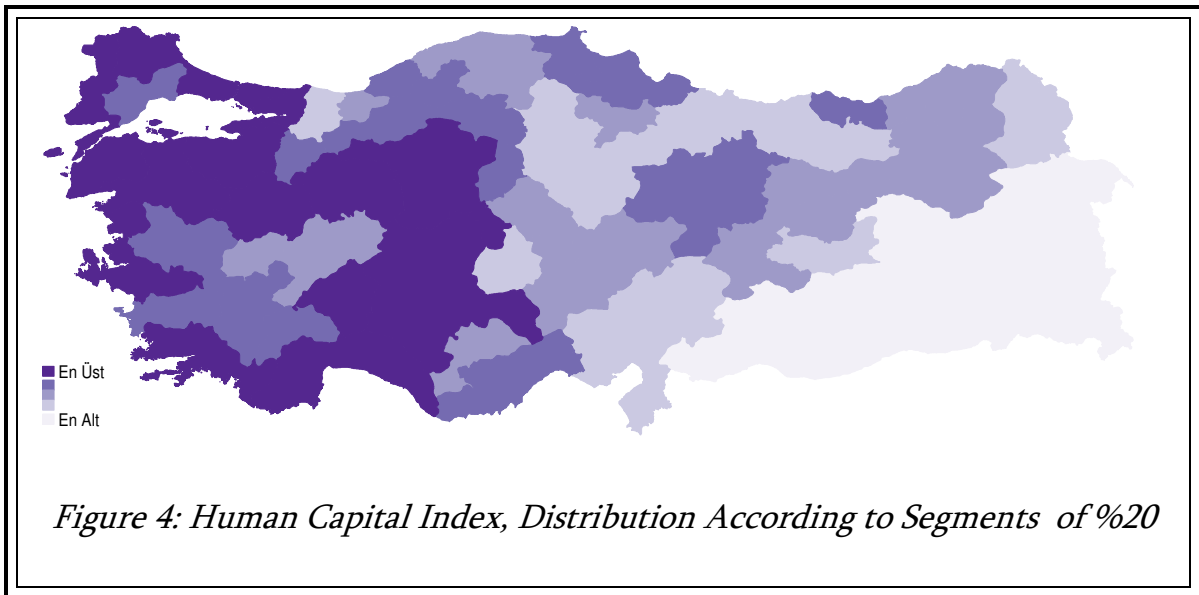
Rank		Index Value	Rank		Index Value	Rank		Index Value
1	Ankara	100.0	28	Aydın	84.5	55	Aksaray	71.4
2	Eskişehir	100.0	29	Mersin	84.4	56	Çorum	71.4
3	Çanakkale	99.0	30	Sivas	83.3	57	Hatay	71.3
4	Muğla	97.6	31	Manisa	82.1	58	Sakarya	70.1
5	Isparta	96.9	32	Sinop	81.9	59	Bayburt	69.7
6	Balıkesir	96.6	33	Afyon	81.2	60	Osmaniye	69.3
7	İzmir	96.4	34	Uşak	80.3	61	Yozgat	69.3
8	Edirne	94.5	35	Tunceli	79.9	62	Elazığ	68.2
9	Bursa	91.1	36	Nevşehir	79.4	63	Kars	65.9
10	Yalova	91.0	37	Bartın	79.1	64	K. Maraş	65.5
11	İstanbul	90.8	38	Amasya	78.8	65	Ardahan	61.8
12	Kocaeli	90.7	39	Kayseri	78.7	66	Kilis	61.6
13	Kütahya	90.3	40	Kırşehir	78.6	67	Gaziantep	58.6
14	Antalya	89.7	41	Erzincan	78.5	68	Adıyaman	52.6
15	Kırklareli	89.5	42	Niğde	78.0	69	Bingöl	47.4
16	Konya	89.4	43	Düzce	77.8	70	Iğdır	41.9
17	Trabzon	89.1	44	Artvin	77.3	71	Diyarbakır	36.4
18	Bolu	88.1	45	Karaman	76.7	72	Van	35.3
19	Denizli	87.7	46	Malatya	76.2	73	Siirt	31.2
20	Bilecik	87.4	47	Kastamonu	76.0	74	Batman	31.2
21	Zonguldak	87.0	48	Erzurum	75.4	75	Bitlis	31.1
22	Tekirdağ	86.3	49	Rize	75.3	76	Ağrı	29.5
23	Kırıkkale	86.3	50	Gümüşhane	74.9	77	Mardin	26.0
24	Çankırı	85.3	51	Giresun	74.1	78	Şanlıurfa	24.3
25	Karabük	84.9	52	Tokat	73.1	79	Muş	21.2
26	Samsun	84.8	53	Ordu	72.8	80	Hakkari	16.3
27	Burdur	84.7	54	Adana	72.1	81	Şırnak	15.1

Table 4: Human Capital Index

5. Creativity Index

The creativity index complements the human capital index for a better explanation of the differences among regions. Ankara comes at the top of the index, and Istanbul follows it after considerable gap. Some cities like Erzurum and Elazığ, which take lower ranks in indexes, climb higher on this index due to universities in these cities. Şırnak is at the bottom of the creative capital index.


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Figure 5: Creativity Index, Distribution According to Segments of %20
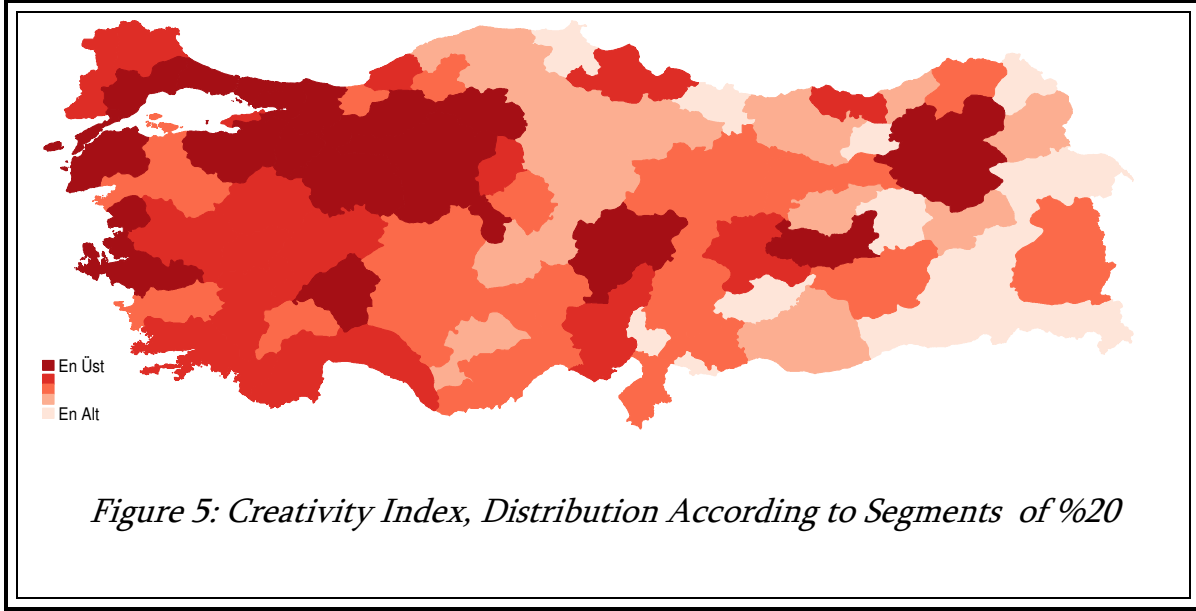
Rank		Index Value	Rank		Index Value	Rank		Index Value
1	Ankara	100.0	28	Yalova	16.1	55	Kastamonu	7.0
2	İstanbul	56.7	29	Manisa	16.0	56	Muş	6.9
3	Eskişehir	45.0	30	Trabzon	15.9	57	Nevşehir	6.0
4	Erzurum	38.5	31	Zonguldak	15.9	58	Gümüşhane	5.9
5	Kocaeli	36.9	32	Afyon	15.1	59	Rize	5.8
6	Kayseri	34.9	33	Balıkesir	14.7	60	Şanlıurfa	5.0
7	Sakarya	33.2	34	Konya	14.6	61	Aksaray	4.9
8	Bursa	33.1	35	Kırşehir	14.2	62	Yozgat	4.5
9	İzmir	31.9	36	Niğde	13.9	63	Karaman	4.5
10	Çankırı	28.6	37	Burdur	13.9	64	Amasya	4.4
11	Çanakkale	28.2	38	Düzce	13.3	65	Bartın	4.3
12	Bilecik	27.3	39	Mersin	12.9	66	Sinop	3.6
13	Bolu	26.8	40	Hatay	12.9	67	Osmaniye	3.1
14	Isparta	26.6	41	Sivas	12.8	68	Ordu	2.9
15	Elazığ	25.5	42	Erzincan	12.6	69	Batman	2.8
16	Tekirdağ	25.0	43	K. Maraş	12.6	70	Hakkari	2.5
17	Edirne	24.3	44	Aydın	12.1	71	Bayburt	2.4
18	Muğla	21.9	45	Artvin	11.4	72	Bingöl	2.1
19	Kütahya	19.9	46	Gaziantep	11.1	73	Iğdır	1.9
20	Kırklareli	19.2	47	Van	11.0	74	Adıyaman	1.8
21	Kırıkkale	18.7	48	Diyarbakır	10.1	75	Kilis	1.7
22	Denizli	18.6	49	Karabük	9.5	76	Bitlis	1.1
23	Antalya	18.5	50	Kars	9.0	77	Siirt	1.1
24	Adana	18.3	51	Tokat	8.6	78	Mardin	0.8
25	Uşak	18.0	52	Çorum	8.1	79	Ardahan	0.7
26	Malatya	17.1	53	Tunceli	7.4	80	Ağrı	0.1
27	Samsun	16.1	54	Giresun	7.0	81	Şırnak	0.0

Table 4: Creativity Index

6. Social Capital

One of the answers to the question why human capital and creative capital cluster in certain regions is the social capital index measuring a city's capacity to attract well educated and creative people. Ankara and Istanbul take the first two ranks, Muğla is the third on the index, even higher than İzmir. Muş is at the bottom.


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Figure 6: Social Capital Index, Distribution According to Segments of %20
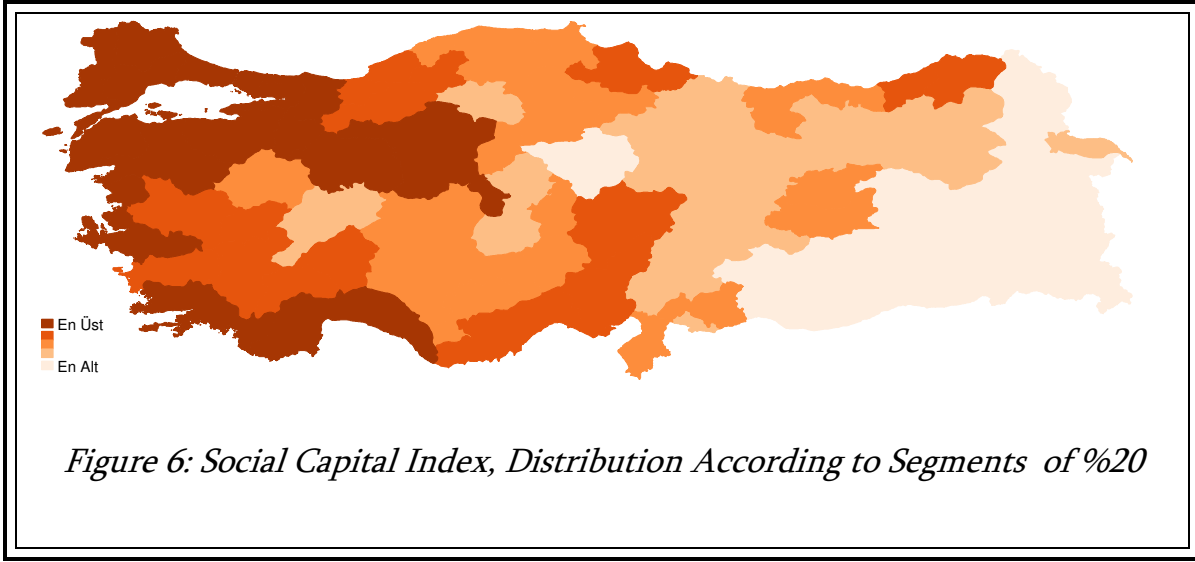
Rank		Index Value	Rank		Index Value	Rank		Index Value
1	Ankara	100.0	28	Mersin	55.2	55	K. Maraş	38.8
2	İstanbul	99.0	29	Isparta	54.7	56	Erzincan	38.6
3	Muğla	90.8	30	Zonguldak	54.5	57	Aksaray	38.3
4	İzmir	89.6	31	Manisa	53.9	58	Çankırı	38.2
5	Yalova	86.6	32	Artvin	52.0	59	Kilis	36.7
6	Tekirdağ	84.0	33	Trabzon	51.9	60	Ordu	36.6
7	Antalya	81.4	34	Amasya	49.0	61	Iğdır	36.2
8	Eskişehir	80.5	35	Konya	48.1	62	Bayburt	33.9
9	Kocaeli	77.6	36	Kütahya	47.8	63	Gümüşhane	33.2
10	Kırklareli	75.1	37	Karaman	46.5	64	Erzurum	31.7
11	Bursa	74.4	38	Hatay	45.7	65	Tokat	31.7
12	Edirne	71.6	39	Sinop	45.4	66	Kars	27.5
13	Çanakkale	69.5	40	Nevşehir	44.8	67	Yozgat	26.1
14	Balıkesir	67.7	41	Bartın	44.6	68	Diyarbakır	25.8
15	Sakarya	67.0	42	Gaziantep	43.7	69	Ardahan	24.3
16	Bilecik	66.6	43	Giresun	43.6	70	Adıyaman	24.2
17	Denizli	64.5	44	Kırıkkale	43.6	71	Bingöl	22.7
18	Düzce	63.0	45	Elazığ	43.0	72	Hakkari	19.5
19	Bolu	63.0	46	Çorum	43.0	73	Van	17.9
20	Aydın	61.0	47	Kastamonu	42.6	74	Şanlıurfa	17.3
21	Burdur	60.3	48	Niğde	42.4	75	Batman	16.8
22	Rize	59.6	49	Tunceli	42.2	76	Siirt	15.2
23	Karabük	59.4	50	Afyon	41.8	77	Şırnak	14.4
24	Adana	58.0	51	Osmaniye	41.8	78	Bitlis	14.1
25	Uşak	57.4	52	Malatya	41.5	79	Mardin	12.9
26	Samsun	56.8	53	Kırşehir	40.3	80	Ağrı	11.2
27	Kayseri	55.4	54	Sivas	40.3	81	Muş	7.9

Table 6: Social Capital Index

7. Physical Infrastructure

The importance of physical infrastructure is undisputable for economic growth. Similar to other indexes, the geographical region extending from the Marmara Region to Ankara, including İzmir as usual, as well as Denizli and Gaziantep for this case, is far more developed than the rest of the country.

Figure 7: Physical Infrastructure Index, Distribution According to Segments of %20
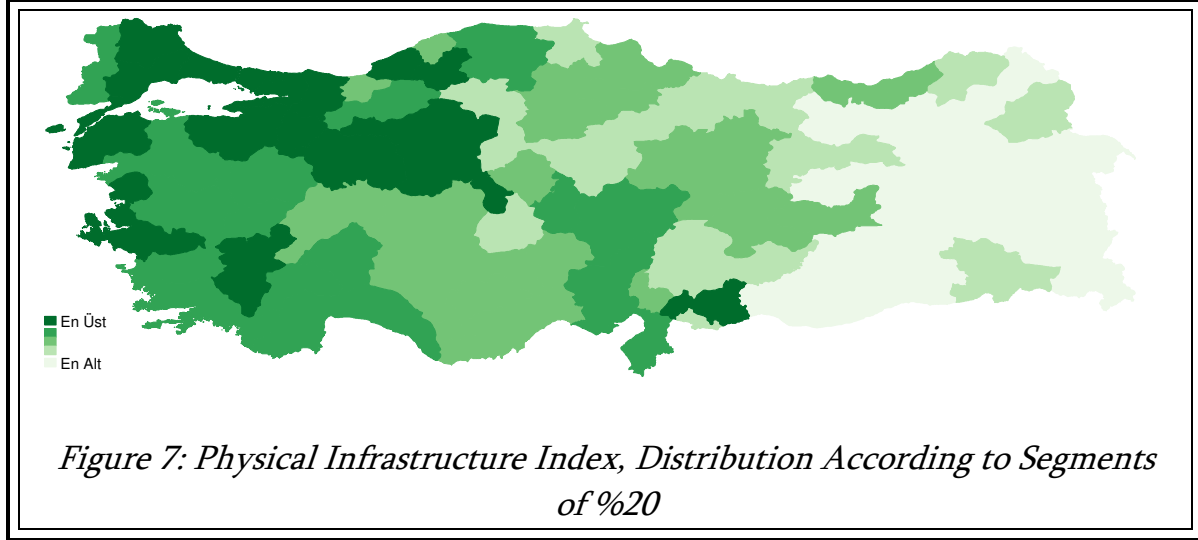
Rank		Index Value	Rank		Index Value	Rank		Index Value
1	İstanbul	100.0	28	Hatay	54.4	55	Çankırı	33.8
2	İzmir	96.7	29	Kastamonu	53.5	56	Artvin	33.8
3	Kocaeli	86.3	30	Isparta	53.2	57	Tokat	32.4
4	Ankara	83.4	31	Adana	52.7	58	Aksaray	30.0
5	Bursa	82.0	32	Nevşehir	49.9	59	Kilis	28.5
6	Eskişehir	77.5	33	Samsun	49.4	60	Erzincan	28.1
7	Yalova	75.5	34	Düzce	47.6	61	Kars	27.5
8	Sakarya	72.7	35	Bartın	46.7	62	Giresun	26.4
9	Zonguldak	72.5	36	Konya	46.5	63	Yozgat	26.3
10	Tekirdağ	71.6	37	Niğde	45.9	64	Şırnak	25.3
11	Bilecik	71.3	38	Çorum	45.1	65	Siirt	24.5
12	Karabük	69.4	39	Amasya	44.9	66	Diyarbakır	23.0
13	Gaziantep	68.1	40	Mersin	44.4	67	Mardin	22.3
14	Çanakkale	67.6	41	Afyon	44.2	68	Batman	21.7
15	Denizli	67.6	42	Karaman	43.3	69	Şanlıurfa	20.0
16	Kırklareli	66.3	43	Elazığ	42.9	70	Bayburt	19.0
17	Muğla	66.2	44	Malatya	42.8	71	Iğdır	18.8
18	Edirne	64.7	45	Trabzon	40.0	72	Erzurum	18.5
19	Uşak	64.3	46	Rize	40.0	73	Van	17.2
20	Balıkesir	63.4	47	Sivas	38.6	74	Gümüşhane	16.3
21	Antalya	62.0	48	Osmaniye	38.3	75	Tunceli	15.7
22	Bolu	61.3	49	Kırşehir	37.1	76	Ardahan	12.4
23	Kayseri	61.3	50	Ordu	36.9	77	Muş	12.4
24	Aydın	61.2	51	Sinop	36.0	78	Bitlis	11.6
25	Burdur	58.6	52	Kırıkkale	34.9	79	Bingöl	10.4
26	Manisa	56.9	53	K. Maraş	34.6	80	Hakkari	6.2
27	Kütahya	56.1	54	Adıyaman	34.4	81	Ağrı	5.4

Table 7: Physical Infrastructure Index

8. A case study: Competitiveness, banking and finance

One of the most significant problems mentioned in context of regional competitiveness are the difficulties faced by Small and Medium size Enterprises (SMEs) and other firms of cities ranking low on competitiveness index in access to finance. The geographical distribution of banking credits in proportion to the income, also show that credits concentrate on Istanbul and Ankara. Yet, it is also true that after the year 2000, these disadvantaged regions started growing faster in terms of financial opportunities compared to rest of the country.

The current study uses the data from competitiveness index to compare the years 2001 and 2006 in terms of the ratio of banking credits to the city income. To put it more simply, the table below explains the relative increase in the banking credits. The top three cities emerging from this calculation are Burdur, Mardin and Şırnak, where the total amount of credits grew eight times. Bingöl comes fourth with an increase of 7.5 times. During the same period, credits grew %138 in Istanbul and less than %100 in Ankara. Of course, such a difference is partially caused from the fact that cities currently taking place at the highest ranks of the table started the competition from lower levels. Still, it can legitimately be argued that after the year 2000, significant improvements have been realized in access to finance, which is one of the conditions for a more proportionate geographical distribution of the competitiveness capacity.

Rank	City	Rate	Rank	City	Rate	Rank	City	Rate
1	Burdur	8,83	28	Kırklareli	5,08	55	Erzurum	3,61
2	Mardin	8,62	29	Bolu	5,08	56	Kahramanmaraş	3,57
3	Şırnak	8,36	30	Karaman	5,04	57	Samsun	3,41
4	Bingöl	7,57	31	Çanakkale	4,97	58	Rize	3,37
5	Nevşehir	7,15	32	Kırıkkale	4,96	59	Tunceli	3,33
6	Kütahya	7,11	33	Niğde	4,96	60	Gaziantep	3,28
7	Bilecik	7,05	34	Manisa	4,93	61	Siirt	3,26
8	Batman	6,99	35	Kırşehir	4,90	62	Yalova	3,16
9	Bartın	6,86	36	Trabzon	4,90	63	Antalya	3,12
10	Sakarya	6,51	37	Bayburt	4,84	64	Erzincan	3,03
11	Elazığ	6,51	38	Çankırı	4,80	65	Zonguldak	2,97
12	Konya	6,40	39	Malatya	4,69	66	Kayseri	2,86
13	Kastomonu	6,39	40	Balıkesir	4,68	67	Ordu	2,72
14	Muğla	6,08	41	Hakkari	4,60	68	Iğdır	2,71
15	Uşak	6,05	42	Şanlıurfa	4,58	69	Mersin	2,44
16	Aydın	5,97	43	Düzce	4,55	70	Ardahan	2,27
17	Sinop	5,85	44	Eskişehir	4,49	71	Bursa	2,23
18	Çorum	5,68	45	Kilis	4,42	72	Edirne	2,21
19	Diyarbakır	5,64	46	Yozgat	4,34	73	Muş	2,08
20	Ağrı	5,56	47	Isparta	4,10	74	Kars	1,96
21	Tekirdağ	5,47	48	Karabük	3,85	75	Adana	1,84
22	Artvin	5,45	49	Amasya	3,79	76	Denizli	1,74
23	Aksaray	5,36	50	Hatay	3,77	77	Kocaeli	1,55
24	Sivas	5,26	51	Adıyaman	3,76	78	İzmir	1,54
25	Osmaniye	5,24	52	Afyon	3,73	79	İstanbul	1,38
26	Tokat	5,17	53	Bitlis	3,69	80	Ankara	0,94
27	Van	5,17	54	Gümüşhane	3,65	81	Giresun	0,14

Table 8: The ratio of credits-income in 2006 to the ratio of credits-income in 2001.

8. Conclusion

Looking at the different tables and sub-indexes, it can be said that the rankings of the cities in different sub-indexes dramatically differ. For instance while Erzurum is the 71st on physical infrastructure index, it is 4th on creativeness index. Another similar example is Gaziantep. While Gaziantep occupies the 13th rank on physical infrastructure index, it comes only the 67th on human capital index.

However, this conclusion does not necessarily apply to all cities. Ağrı's best and worst performances on sub-indexes differ only 5 ranks, and for Yozgat the difference is only 6 ranks.

The most important implication of the gaps among different indexes is that it proves regional competitiveness index can be changed. In other words, the cities performing poorer on the sub-indexes are not destined to stay there. The top cities on the general competitiveness index do not occupy the same top places in all of the six sub-indexes.

There is room for change and development through national public policies or more local policy approaches which can contribute to the competitiveness capacity, provided that these policies are sustainable. Actually, such an approach is at the same time the goal of local development.

This study is intended to be a guide for those who want to shape such policies. Cities' positions on the sub-indexes reveal which domains should be addressed for development at a local level. The final goal should be an eventual improvement of the cities on the sub-indexes they perform poor. There are some dramatic examples supporting this view:

- If the internet usage in Yozgat is raised to the Turkey average, Yozgat will rise to the 42nd rank from the 45th rank on general competitiveness.
- If the number of students per teacher in primary and secondary education in Gaziantep reaches the country average, this city will move three ranks high and be the 29th on the general index.
- If the literacy rate in Diyarbakır is raised to the Turkey average %84 from its current %70, Diyarbakır will rise to 64 from 67th rank.
- If the academic publications per person in Muğla reach the country average, Muğla will move to the 8th rank from the 9th.

- When the literacy rate in Van equals the Turkey average, it will climb one rank and become the 71st on the general index. If the women participation to the workforce reaches Kırklareli's %25 performance from its current %10, Van will rise two more ranks becoming the 69th on the general index.
- Currently Denizli occupies the 17th and Kayseri the 21st ranks on the general index. If Kayseri manages to catch Balıkesir in its solid waste treatment capacity, and also approaches to the Ankara level in agricultural employment, it will leave Denizli behind on the general index.
- If the number of NGOs per 100000 people in Şanlıurfa reaches the Artvin level, and the newspaper sales catch the Balıkesir level, then Şanlıurfa will move three ranks upwards on the general index, to the 71st rank from 74th.
- Adana occupies the 22. rank on competitiveness index. In order to be among the first 20, it has to raise the average education year to 6 from its current 4.5, and catch the Turkey average in number of students per teacher. For the latter, catching the Gümüşhane would be enough.

The index actually is picture in time of cities in terms of competitiveness capacity. From now on, it will be possible to track changes in competitiveness variables with subsequent studies. In other words, this study makes a closer focus on competitiveness possible. Also, the changes in cities' ranking through time will also reveal if the policies supporting competitiveness capacity were successful and lasting on regional level.