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A Bibliometric Review of the Research Papers of the Central Bank of Turkey

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M. ERAY YUCEL

Abstract

This paper presents a bibliometric assessment of the research papers produced in the Central Bank of the Republic of Turkey from 1988 to 2009. Concentration over subjects and the Journal of Economic Literature (JEL) classification codes are provided in addition to the time distribution of bibliography cited in the research papers. Overall, it is observed that the examined series did provide an adequate pool of knowledge for both academics and the general public.

JEL Classification: A39, Y9 and Z0.

Key Words: Bibliometrics, Central bank research, Economic research.

1. Introduction

Research is an integral part of monetary policymaking activities worldwide.¹ When we look at where research enters into the policymaking process, we see multiple channels: First, the monetary transmission mechanism itself is the most popular subject matter in central bank research. A solid understanding of the mechanism enhances the quality of policymaking; i.e. the effectiveness of policy actions. One should understand how central bank's policy instruments affect the rest of the variables, make her decisions accordingly, evaluate the outcomes accordingly and update whenever necessary the policy scheme accordingly.

Second, communication is augmented through research efforts. While day-to-day announcements and press releases are critical for effective transmission of actions/ideas to the general public, central bank research is probably the best vehicle to introduce paradigm shifts to a more sophisticated audience. Among them one may count academics, researchers of financial corporations and specialists of economics working in mass media. Indeed, once they filter and re-transmit the research material to a wider audience, a true sense of communication comes true. In a way, they facilitate a closed-loop feedback structure.

Third, a central bank is a fairly productive originator of new topics, aspects and directions for the rest of researchers. Having pinpointed the new intellectual challenges based on day-to-day policy implementation and surveillance processes, central bank researcher poses an array of questions to her outside peers.

A final point with regard to the value of central banks' research is its ability to transform others' academic products to value-added on policymaking grounds. This relocates the usually dislocated channels of dialog between theorists and practitioners.

The interest of this paper starts at this point: How do we measure the central banks' research? Notice the popular obsession to measure everything embodied in this question. Luckily the answers are not very far. On the contrary, there are at least two ways to measure academic work, the first two of which I refer to below:

The usual mechanism of measurement entails the well-known academic means to evaluate research: originality, conformity to academic ethics, contribution to field, overall impact (count of citations, concentration of citations in sources with high impact factors), etc. Note that these measures consider a wide range of publishers yet include mainly a small subset of them, as in the case of citation indexes. Quality-enhancement is a good characteristic of this system: if a journal is listed under a specific citation index, then the researcher/author knows that if she publishes in that journal she will gain a better recognition. The journal editor knows that she has to implement an effective screening strategy to avoid low-quality work be published. The referees who serve the editor for a specific manuscript know that they should conform, and most of the time exceed, the standards of the journal to avoid bad reputation. In a nutshell, this mechanism is supposed to yield sufficiently good outcomes.

What happens when a certain publication is not listed in a specific citation and/or field index? Who and what mechanism will then guarantee that the publication includes "good" products? "Making publications more visible" is a natural response to this question. Once the series of papers become more visible and more traceable, the authors shall assume more responsibility and good outcomes can be possible (if not guaranteed) even in the absence of preset editors and referees. The RePEc system perfectly represents such a scheme. It makes papers visible, makes citation counting feasible, and makes author contact information available all the time. This time, the quality enhancement is not that guaranteed

¹ This observation is especially valid after many central banks have switched to inflation targeting as a monetary policy strategy. By this token, it is frequently mentioned that inflation targeting is a knowledge-intensive policy strategy.

as in the case of a refereed journal in XYZ-index; however, there is a fair degree of accountability at the side of the individual researcher.

One can now ask what happens when a more detailed description of research in a certain field is needed. Or how do we assess the evolution of research in a certain institution? How do we assign value to institutional research? This time we are fortunate that bibliometric tools do provide some answers.²

In this paper, some of these answers are searched for the Discussion Papers and Working Papers series published by the Central Bank of Turkey (CBT; Central Bank of the Republic of Turkey, CBRT) since 1988. Concentration of papers over subjects (here the JEL classification codes) is provided in addition to distribution of bibliography cited in the research papers over time, language preferences, number of authors and download statistics. Overall, it is observed that the examined series did provide an adequate pool of knowledge for both academics and the general public.

In the next section, the data and analysis are presented. The third section is devoted to a discussion of findings.

2. Data and Analysis

2.1. Data

The research of the Central Bank of Turkey (CBT) produced in-house has been presented under different series names since 1987. Chronologically, these series are “**Economic Research Bulletin**”, “**Central Bank of Turkey Research Bulletin**”, “**Central Bank of Turkey Quarterly Bulletin**”, “**Articles**”, “**Discussion Papers**” and “**Working Papers**”. While some of these co-existed for some time, presentation of CBT research was consolidated under “**Working Papers**” starting from 2003. The Discussion Papers and Working Papers series are listed in the RePEc (Research Papers in Economics) system³.

In this paper, I consider only the Discussion Papers (1988-2002) and Working Papers (1997-2009) series. This limitation basically originates from constraints on online availability, i.e. not every single paper is directly available on CBT’s web site. However, this does not reduce the coverage substantially, only a minor portion seems to be omitted. A full list of examined papers can be viewed in Appendix A.

Data Items

The data on research papers (i.e. Discussion Papers plus Working Papers) have been compiled by processing each paper in turn. The papers missing both JEL (Journal of Economic Literature) codes and References have been omitted from the sample. Normally, such occurrences can be regarded as failures to conform conventional article format. In the current paper I preferred to disregard this issue.

In the rest of the paper, I consider the following attribute of CBT research papers:

- [+] Concentration of papers over the JEL classification codes spectrum⁴,
- [+] Number of authors,

² I owe the idea to conduct a bibliometric analysis to the Special Issue (April 2009) of the *Eskisehir Osmangazi Universitesi Iktisadi ve Idari Bilimler Fakultesi Dergisi* (Eskisehir Osmangazi University, Journal of the Faculty of Economics and Administrative Sciences). See Ardic and Erdogmus (2009), Barca and Hizirolu (2009), Benligiray (2009), Berkman (2009a, 2009b), Coskun (2009), Erdem (2009), Erdemir (2009), Ozen and Kalemci (2009), Sargut (2009) and Yozgat and Kartaltepe (2009).

³ The RePEc system can be reached at <http://www.repec.org/> The Discussion Papers and Working Papers series of the CBT are available within RePEc at <http://edirc.repec.org/data/tcmgvt.html> and at <http://www.tcmb.gov.tr/research/teblig/tebligsonyeni.html> from the CBT web site.

⁴ For many of the research papers, the JEL codes are missing. Hence, this part of the analysis has been conducted by using the existing codes only. Despite the potential discrepancies, such an exercise may provide useful insights.

- [+] Language in which main text is written,
- [+] Download statistics for CBT research papers in RePEc,
- [+] Time distribution and descriptive statistics of the publication years of papers cited in research papers.

What is Missing?

Indeed, a better-structured bibliometric review should include the following as well:

- [-] Mechanisms that create/define research areas,
- [-] Aim and scope
- [-] Form and reflected ideology,
- [-] Schools of thought within a selected discipline,
- [-] Dose of critical thinking, perspective of critique,
- [-] Approach: positive versus normative, qualitative versus quantitative,
- [-] Potential to generate new knowledge,
- [-] Relevance

- [-] Affiliation and title of authors,

- [-] Most cited journal, article, author, type of publication,
- [-] Web of citations for references,
- [-] Type-distribution of references (journal articles, books, book chapters, etc.),
- [-] Dependence on earlier work,
 - [-] Based on existing pool of documents,
 - [-] Based on existing literature,
 - [-] Depending on original / first-hand data,
 - [-] Theoretical / model building,

- [-] Diversity – homogeneity,

- [-] Material errors

- [-] Rate of transformation to journal articles,

What to Expect?

As mentioned earlier, the long list above has not been processed in this paper. Hoping that further research might address these attributes, I refer to four selected (and easiest to process) attributes here. The following can be / should be expected then for CBT's research papers:

Patterns of concentration of papers over the JEL classification codes spectrum tell several things about the nature of research. While excessive concentration indicates lack of diversity of research interests (or equivalently, mismanaged human resources), very low

concentration might be a symptom of missing backbone. That is, remembering that the considered studies have been all conducted in a central bank, it is natural to expect some large chunk of the efforts to be concentrated around JEL codes C (Mathematical and Quantitative Methods), E (Macroeconomics and Monetary Economics), F (International Economics) and G (Financial Economics). Other codes might / should appear at reasonable frequencies.

In typical central bank research (or let us say directed institutional research) the number of authors can be high. Such collaborative nature of research possibly arises from (1) young-age profile of authors, (2) research articles being by-products of internal research conducted by preset project teams, and (3) existence of external advisors that lead in-house researchers. *A priori*, it is not sensible to link the quality of papers to number of authors. Still, aiming a decreasing number of authors per paper can be a viable indicator of in-house research capacity.

I interpret the language of the paper as an important indicator of its basic orientation. On the choice of language (1) the technical quality of the contents, (2) the targeted audience and (3) the skills of the authors are important factors.

As to the download statistics for CBT research papers, an increasing path over time is a desired property.

Finally, with regard to the time distribution and descriptive statistics of the publication years of papers⁵ cited in research papers, an increasing trend over time can be accepted as an indicator of good performance. An increasing trend of mean (or median) year of references indicates that the research interests are getting refreshed over time, in a way to reflect a tendency toward the state of the art.

2.2. Analysis

Against the above-given background, the analysis of this paper does nothing more than simple counting and graphing. In other words, key statistics, time paths and decompositions of the above-introduced variables are examined and presented in the rest of the paper⁶. A formal presentation of variable names, definitions *et cetera* are hence omitted.

3. Discussion of Findings

JEL Concentration of Papers (Figure 1, Figure 2)

A visual analysis of the JEL code concentration of the CBT's research papers (pool of Discussion and Working Papers) suggests an apparent concentration of efforts around, in descending order, E (Macroeconomics and Monetary Economics, count=71), C (Mathematical and Quantitative Methods, count=34), G (Financial Economics, count=31) and F (International Economics, count=30). Looking at the subject distribution of papers separately for Discussion Papers and Working Papers, a similar pattern is observed. Note that in more than half of the examined papers JEL codes are missing. So these results must be read carefully.

This picture is almost precisely what one expects from a central bank's in-house research. Notice that the JEL codes here are processed individually, i.e. co-appearance of codes on the same paper is not accounted for. Further research might deal with such issues. The decomposition of single-digit JEL codes into two-digit ones and two-digit ones to three-digit ones is presented in Figure 2 for the interested reader.

⁵ It is trivial that, at a given time, the year of publication of a cited paper is the arithmetic inverse of its age.

⁶ The spreadsheets including the analytical material will be available to the interested reader after January 2009.

Number of Authors (Figure 3)

As mentioned earlier, in typical directed-institutional research, the number of authors can be high as an indication of the collaborative nature of work. Though it is not very sensible to link the quality of papers to number of authors, a decreasing number of authors per paper can be meaningful in assessing in-house research capacity of an institution.

Figure 3 plots the annual averages of the number of authors separately for the Discussion Papers and Working Papers. The figure suggests that (1) average number of authors is higher in the Working Papers series and (2) average number of authors tend to increase over time. One can interpret this as evidence for an increasing tendency of cooperation. Some further insights about the human resources regime might cause us to interpret the increasing number of authors as a direct outcome of hiring younger researchers at a higher rate after 2001.

Language of Papers (Figure 4)

Choice of language in which the papers are written is an important dimension in any central bank's communication. Generally speaking we can consider two determinants: (1) linguistic abilities of researchers, (2) characteristics of the target audience. Based on anecdotal evidence, it can be said that the second overweighs in the case of the CBT. A couple of reasons can be listed for that.

First, as the Turkish economy moved toward a more open policymaking perspective and gained relative stability after the 2001 crisis, CBT's audience has expanded over a global scale. It then included the general public, non-CBT researchers and academics. Second, owing to the post-graduate scholarship program of the CBT for its staff and to individual efforts of researchers, a large portion of researchers and economists in the CBT hold at least a master's degree in economics or finance. A significant portion of them holds Ph.D. degrees.

Both of these factors may help to explain the evolution observed in Figure 4. Investigation of Figure 4 reveals the increasing use of English as language of academic communication in the CBT.

RePEc Download Statistics (Figure 5)

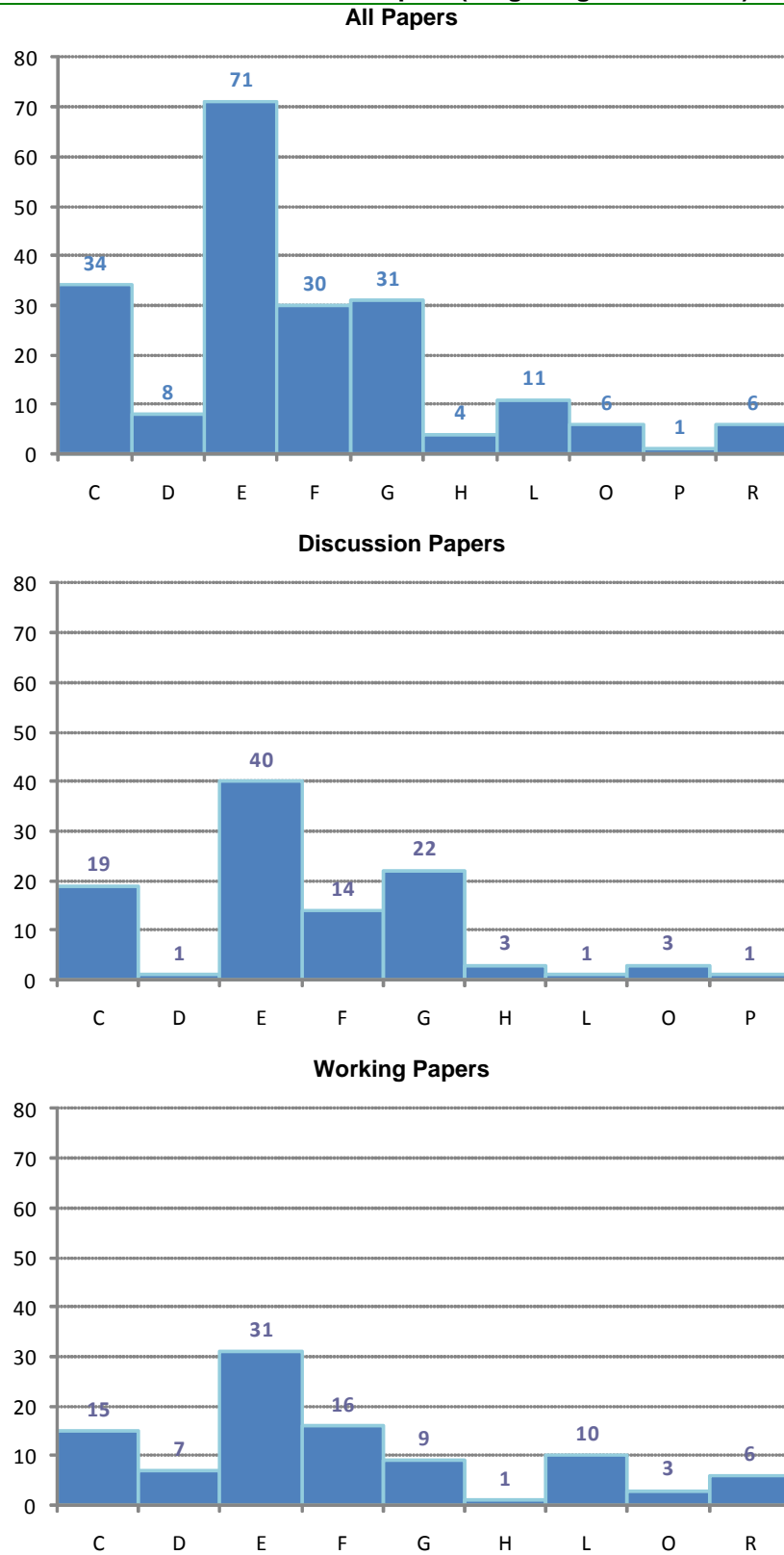
For any research institution an increasing time path of downloads of online material is a desired property. Although a central bank is not solely in charge of scientific research, this property is valid for central bank research, as well. In order to ensure a complete scheme of communication it is necessary to propagate the research products effectively.

Unfortunately web site of the CBT does not provide its download statistics. So in this paper the RePEc download statistics have been used to assess the online visibility of Discussion and Working Papers. Evolutions of download statistics are displayed in Figure 5. The upper panel of Figure 5 suggests that the download statistics of Discussion Papers and Working Papers are historically almost identical. Starting from January 2009, however, download statistics of the latter exceed that of the former.

Notice that the analysis of the upper panel in Figure 5 uses the total counts of downloads which may be misleading. A better metric could be the number of downloads per paper. The lower panel of Figure 5 presents this exercise. Based on this figure, it can be concluded that the Working Papers series beat the Discussion Papers series at all times. This can be regarded as an *ex post* measure of quality differential between the two paper series.

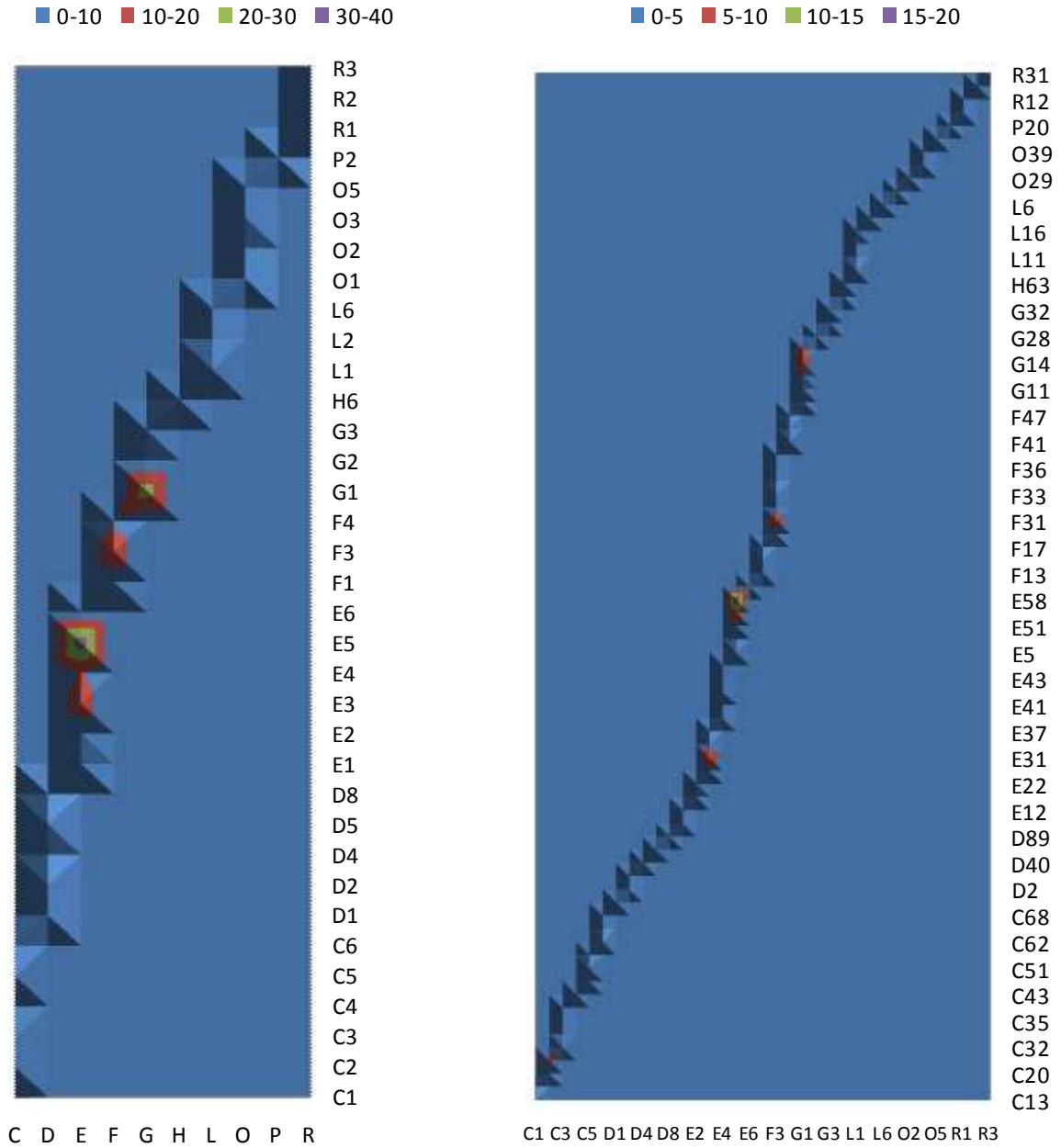
Nevertheless, one should also remember the language distribution of these series that shifted toward English over time. Indeed, English being the most popular language in scientific communication sheds some light on the online interest in the Working Papers.

Figure 1. Subject Concentration of Research Papers (Single-digit JEL codes)



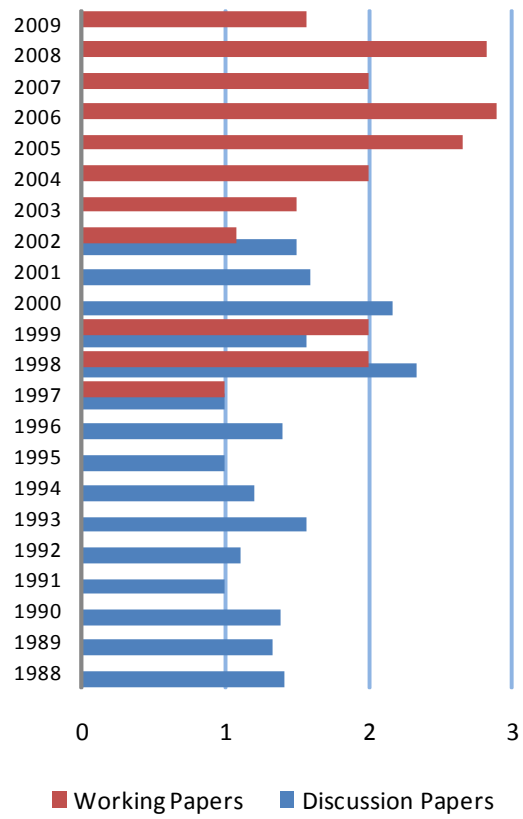
Notes: (1) Simple counts.

Figure 2. Subject Concentration of Research Papers (Single-to-three-digit JEL codes)



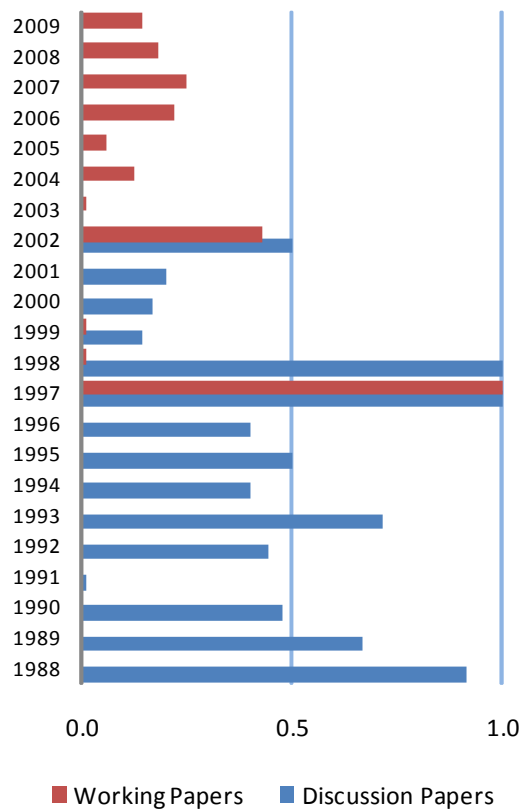
Notes: (1) Refer to the legend given above for numeric intervals.

Figure 3. Number of Authors



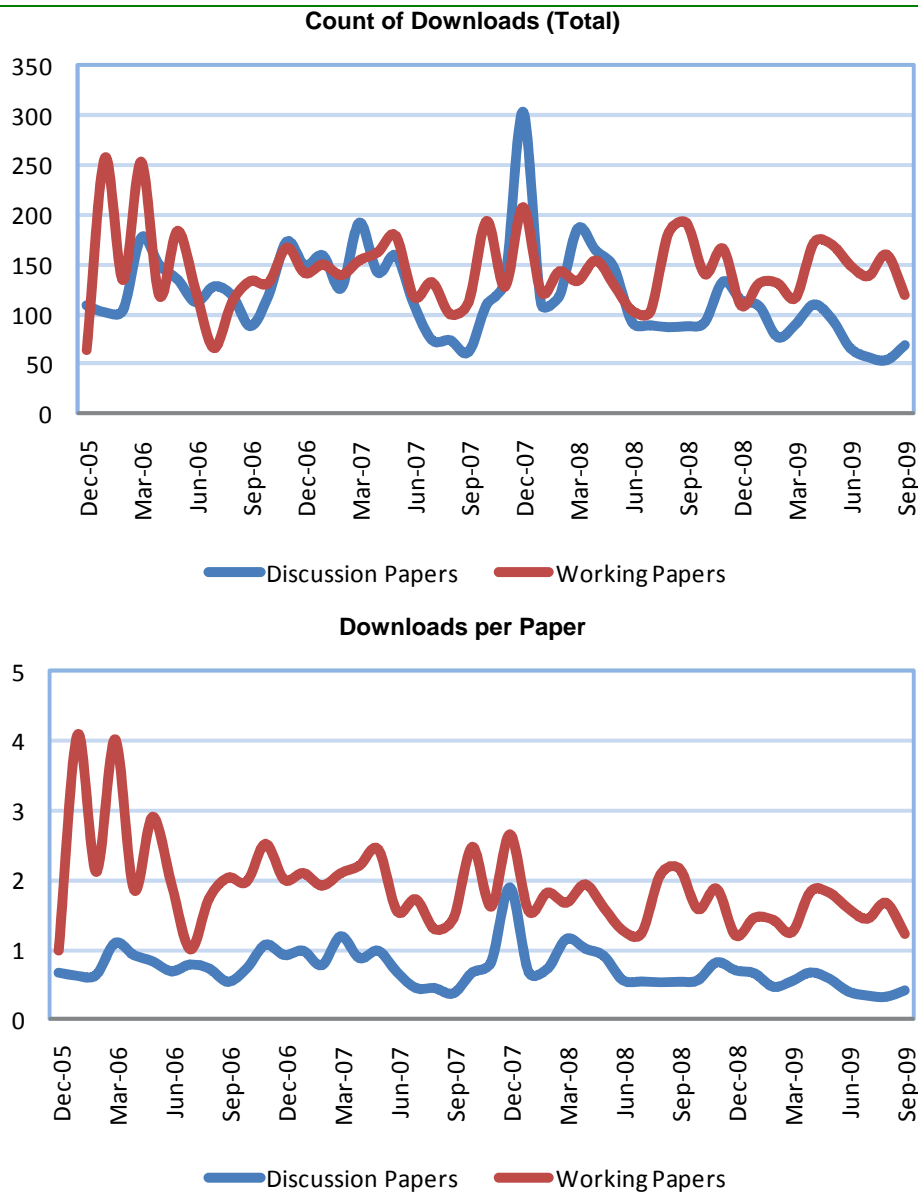
Notes: (1) Averages for each year. (2) Absence of bars indicates "not applicable / not available".

Figure 4. Language of Papers (per cent of papers written in Turkish)



Notes: (1) Percentage of papers written in Turkish. (2) Tiny bars represent zero. Absence of bars indicates "not applicable / not available".

Figure 5. RePEc Download Statistics



Notes: (1) Source: RePEc. (2) Upper panel: simple counts. (3) Lower panel: number of downloads per paper, i.e. figures of upper panel divided by the outstanding number of discussion or working papers.

Evolution of Cited References (Figure 6, Figure 7, Figure 8, Figure 9)

With regard to the time distribution and descriptive statistics of the publication years of papers cited in research papers (references), an increasing trend over time can be accepted as an indicator of good performance. An increasing trend of mean (or median) year of references indicates that the research interests are getting refreshed over time, in a way to reflect a tendency toward the state of the art.

At this point let us create a variable named age gap and define it as the difference between the year of publication of a considered paper and a central measure of the year of publications cited in that certain paper. Further, let the age gap measure be named mean-gap (median-gap) if the central measure employed is the mean (median) year of cited references. It is trivial that none of these measures can be negative. Then, as age gap is smaller, the more state of the art the considered paper is.

At the same time, one should be careful not to underestimate the value of an older source or sources (simply an article or a book) cited in a research paper. Older citations in a paper might be indicative of a more historical and/or intellectual content. That is, a philosophically oriented paper with purely ancient citations must not be dismissed.

All in all, age issue should be considered in a way to locate the fine line between young and old-aged references cited in a paper. In Figure 6 and Figure 7, this is represented by using Box-Whisker plots of the years of publication of each paper in our sample. The upper and lower panels of Figure 6 display the Box-Whisker plots for the Discussion and Working Papers, respectively. In order to conveniently compare the two, upper and lower panels of Figure 6 are superposed in Figure 7.

A naked eye inspection of what is happening in Figure 7 suggests, on average, that the mean year of cited references move with the publication year of the citing papers. So, again on average, there is a reasonable momentum of catching up with the new literature. The red signs on Figure 7 represent the outliers, i.e. much older references. Widespread appearance of these is indicative of more historical roots in CBT's research papers. In a nutshell, the papers seem to have a reasonable balance between the present and past literature. For visual ease, mean and median dates of the cited references are plotted together with the years of publication of the research papers in Figure 8.

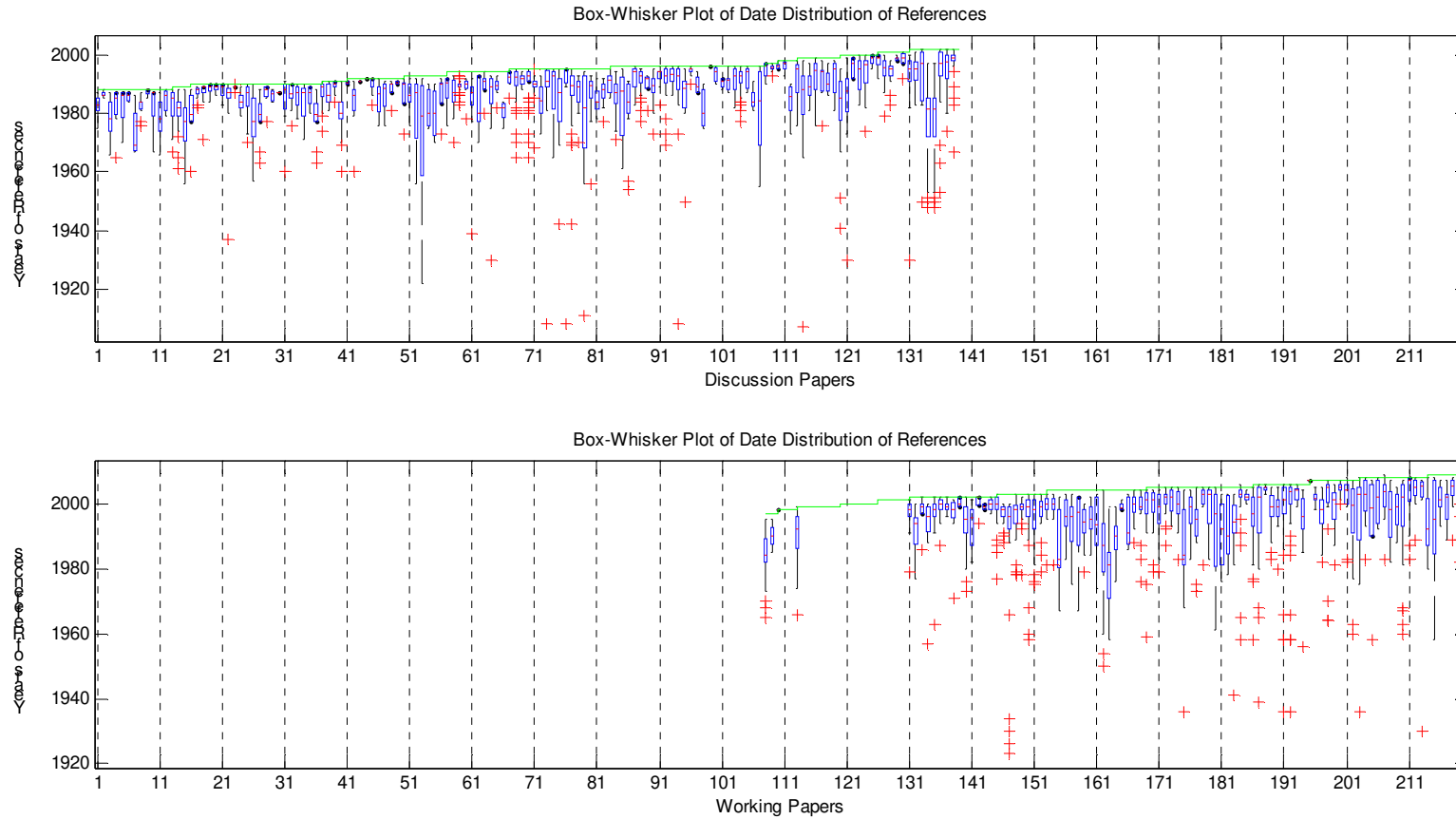
A more in-depth exercise is presented in Figure 9. Based on the upper-left and upper-right panels, one can say that the average age gap (in both means and medians) is around three to five years. Moreover, it is not trivial to conclude any difference between the Discussion and Working Papers series in terms of age gaps of their references.

Note that plain age gaps are not a very good metric of what is happening in the data. So this paper employs standardized age gaps, i.e. age gaps divided by their sample means. These standardized measures are presented in the lower panels of Figure 8. Noticing that our standardized measures are fundamentally *t-ratios*, one can observe that the age gap is significantly high in 1997 and 1998. Equivalently, in those years despite the low standard deviation of the years of cited references, center year of cited references fall far from the year of the citing paper. It is interesting that the decline of Discussion Papers and rise of Working Papers are separated with these years.

What is Next?

I believe further research will address the long list of requirements of the "What is Missing?" section and hope that more researchers will be into these interesting bibliometric questions in the future. E.Y.

Figure 6. Box-Whisker Plots of Date Distribution of References (Upper panel: Discussion Papers, Lower panel: Working Papers)



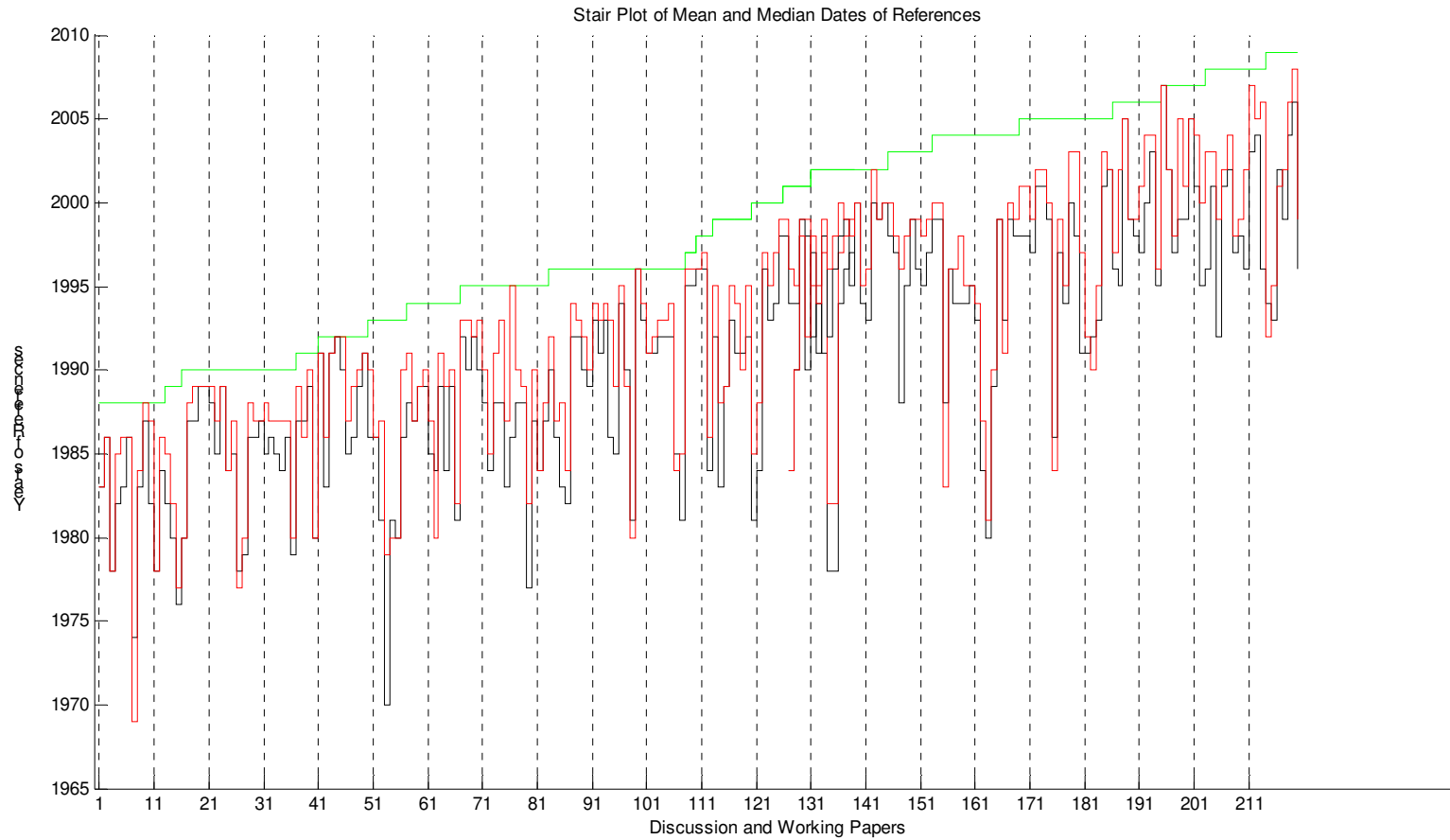
Notes: (1) The green curve indicates the actual publication year of the discussion or working papers. (2) The boxes have lines at the lower quartile, median, and upper quartile values. The whiskers are lines extending from each end of the boxes to show the extent of the rest of the data. Outliers are data with values beyond the ends of the whiskers.

Figure 7. Box-Whisker Plot of Date Distribution of References (Discussion Papers and Working Papers stacked)



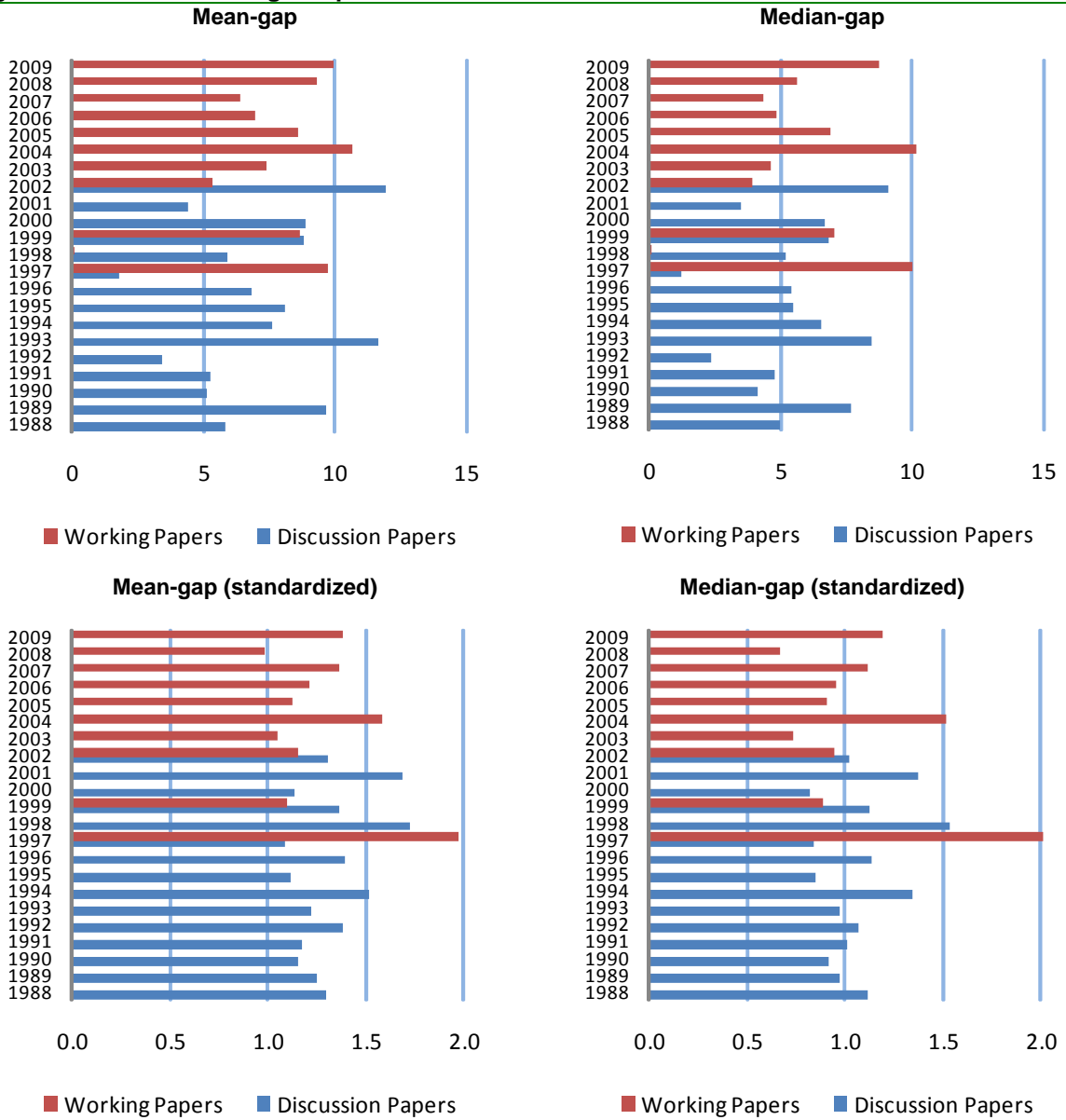
Notes: (1) The green curve indicates the actual publication year of the discussion or working papers. (2) The boxes have lines at the lower quartile, median, and upper quartile values. The whiskers are lines extending from each end of the boxes to show the extent of the rest of the data. Outliers are data with values beyond the ends of the whiskers.

Figure 8. Stair Plot of Mean and Median Dates of References (Discussion Papers and Working Papers stacked)



Notes: (1) The green curve indicates the actual publication year of the discussion or working papers. Black and red stairs represent the mean and median year of references, respectively.

Figure 9. Time Paths of Age Gaps



Notes:

References

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APPENDIX A

A Full List of Papers Examined

Research produced by the CBT is available within RePEc at <http://edirc.repec.org/data/tcmgvtr.html> and at <http://www.tcmb.gov.tr/research/teblig/tebligsonyeni.html> from the CBT web site.

Below is a list of codes assigned to Discussion and Working Papers. “dp” and “wp” simply refer to Discussion Papers and Working Papers, respectively. The numbers represent the unique RePEc handles for papers. For convenience, only parts of paper titles are included in my alpha-numeric codes for papers and spaces are replaced with underscores.

Discussion Papers

- [1]dp_8801_Turkiye'de_Para_Ikamesi_____;
- [4]dp_8805_Sanayi_Uretim_Endeksi_____;
- [7]dp_8809_Yeni_Para_Tanimi_:Turkiye_Den;
- [10]dp_8813_Bankacilik_Kesiminin_Pacal_Fai;
- [13]dp_8901_Mevduatin_Vade_Dilimleri_Arasi;
- [16]dp_9001_Bir_Iletisim_Sistemi_Olarak_Me;
- [19]dp_9004_Monetary_Policy_in_a_Changing_;
- [22]dp_9007_Reflections_on_the_Turkish_Ban;
- [25]dp_9010_Financial_Liberalization_and_t;
- [28]dp_9015_Merkez_Bankalarinin_Bagimsizli;
- [31]dp_9018_Merkez_Bankasi_Uc_Aylik_Makroe;
- [34]dp_9021_Turkiye'de_Kredi_Dagitim_Siste;
- [37]dp_9103_Policy_Trade_and_Growth_in_Tu;
- [40]dp_9108_An_Ex_Post_Statistical_Assessm;
- [43]dp_9204_Bagimsiz_Devletler_Toplulugund;
- [46]dp_9208_The_Role_of_Public_Sector_Pric;
- [49]dp_9201eng_The_Potential_of_Secondary_;
- [52]dp_9303_Turkiye'de_Para_Yaratma_Gelirl;
- [55]dp_9306_Devlet_Ic_Borclanma_Senetleri_;
- [58]dp_9403_Trends_Cycles_and_Seasonality;
- [61]dp_9406_Enflasyonla_Mucadelede_Iktisad;
- [64]dp_9411_Policy_Regime_Changes_and_Test;
- [67]dp_9501_Opsiyonlar_____;
- [70]dp_9504_Hisse_Senedi_Piyasasinda_Fiyat;
- [73]dp_9507_Einstein_Risk_ve_Gumruk_Birli;
- [76]dp_9510_The_Term_Structure_of_Volatili;
- [79]dp_9513_Turkiye'de_Paranin_Dolasim_Hiz;
- [82]dp_9516_Amerikan_Alman_Japon_Merkez_;
- [85]dp_9603_The_Stability_of_Money_Multipl;
- [88]dp_9607_Araci_Kurumlar_Sermaye_Yeterli;
- [91]dp_9610_Central_Bank_Independence_the;
- [94]dp_9613_The_Term_Structure_of_Volatili;
- [97]dp_9618_The_Determinants_of_the_Inflow;
- [100]dp_9622_Para_Kurulu_Sisteminin_Uygulan;
- [103]dp_9625_Daily_Volatility_in_the_Turkis;
- [106]dp_9628_Parasal_Gostergeler_ve_Paranin;
- [109]dp_9703_Sosyal_Guvenlik_Sisteminin_Yen;
- [112]dp_9803_Mali_Liberallesmede_Merkez_Ban;
- [115]dp_9903_The_effect_of_exchange_rate_un;
- [118]dp_9909_Estimating_an_Import_Function_;
- [121]dp_0002_The_Term_Structure_of_Interest;
- [124]dp_0005_Monetary_Policy_Reaction_Funct;
- [127]dp_0102_A_Comparison_Of_The_Price_Comp;
- [130]dp_0105_Kura_Dayali_Istikrar_Programi_;
- [133]dp_0203_Merkez_Bankalari_Ve_Turev_Piya;
- [136]dp_0206_Is_there_Room_for_Forex_Interv;
- [2]dp_8802_Turkiye'de_Mali_Piyasalardaki_;
- [5]dp_8807_Uluslararası_Para_Sisteminin_S;
- [8]dp_8810_Debt_Servicing_Capacity_of_Dev;
- [11]dp_8814_Turk_Bankacilik_Sistemi_Icin_B;
- [14]dp_8904_Inflation_Expectations_of_the_;
- [17]dp_9002_Restructuring_The_Secondary_Ma;
- [20]dp_9005_Liberalization_Attempts_and_th;
- [23]dp_9008_1990_Yilinda_Kamu_Aciklari_ve_;
- [26]dp_9011_Tuketici_Kredileri_____;
- [29]dp_9016_Kiyi_Bankaciligi_____;
- [32]dp_9019_Merkez_Bankasi_Uc_Aylik_Ekonom;
- [35]dp_9022_An_Investigation_of_Performanc;
- [38]dp_9105_Interest_Rate_Risk_and_Bank_Pr;
- [41]dp_9201tur_Turkiye'de_Devlet_Ic_Borcla;
- [44]dp_9205_Kafkaslar_ve_Orta_Asya_Cumhuri;
- [47]dp_9209_Monetary_Policy_and_Inflation_;
- [50]dp_9301tur_Turk_Bankalarinda_Musteri_D;
- [53]dp_9304_Turkiye'deki_Parasal_Buyuklukl;
- [56]dp_9301eng_Customer_Patterns_and_Credi;
- [59]dp_9404_External_Debt_and_Internal_Tra;
- [62]dp_9407_Enflasyon_ve_Tasaruf_Iliskisi;
- [65]dp_9413_Financeable_Deficit_& Revenues;
- [68]dp_9502_Informational_Efficiency_of_th;
- [71]dp_9505_Money_Multiplier_and_Monetary_;
- [74]dp_9508_Some_Empirics_of_the_Turkish_S;
- [77]dp_9511_Istanbul_Menkul_Kiyemter_Bors;
- [80]dp_9514_Cointegration_Test_for_Money_D;
- [83]dp_9601_Capital_Flows_:The_Turkish_Ca;
- [86]dp_9604_Alternative_Theories_of_Consum;
- [89]dp_9608_Treasury's_3_Month_Borrowing_R;
- [92]dp_9611_Financial_Market_Efficiency_in;
- [95]dp_9615_Terms_of_Trade_and_Economic_Fl;
- [98]dp_9619_Optimal_Para_Arzi_ve_Para_Poli;
- [101]dp_9623_Stabilizasyon_Nominal_Capa_Ol;
- [104]dp_9626_Turkiye'de_Mevduat_Sigortasi_S;
- [107]dp_9630_Denk_Butce_Teorisi_ve_Uygulana;
- [110]dp_9801_Enflasyonun_Dogrudan_Hedeflenm;
- [113]dp_9901_Risk_return_volume_relationship;
- [116]dp_9907_An_Empirical_Examination_of_th;
- [119]dp_9910_Finansal_Yenilikler_ve_Piyasa_;
- [122]dp_0003_Alternatif_Doviz_Kuru_Sistemle;
- [125]dp_0006_Inflation_Targeting_in_Develop;
- [128]dp_0103_Capital_Inflows_And_Central_Ba;
- [131]dp_0201_Credibility_Of_Monetary_Regime;
- [134]dp_0204_Fayda_Teorisi_ve_Rasyonel_Seci;
- [3]dp_8804_Turk_Bankacilik_Sistemi_icin_B;
- [6]dp_8808_Turkiye'de_Dis_Borclarin_Anali;
- [9]dp_8811_Uluslararası_Japon_Tahvil_Piya;
- [12]dp_8815_Cok_Taraffli_Islam_Kliring_Birl;
- [15]dp_8905_Kamu_Borclarinin_Makroekonomik;
- [18]dp_9003_The_Credit_Delivery_System_in_;
- [21]dp_9006_Monetary_Programming_in_Turkey;
- [24]dp_9009_Price_Output_and_Investment_D;
- [27]dp_9014_The_Crawling_Peg_System_:The_;
- [30]dp_9017_DIE'nin_Imalat_Sanayi_Uretim_I;
- [33]dp_9020_Cari_Islemler_Dengesi_Uzerine_;
- [36]dp_9014tur_The_Crawling_Peg_System_:1;
- [39]dp_9107_The_Structural_Adjustment_:Tu;
- [42]dp_9202_The_Price_Dynamics_in_Turkey_;
- [45]dp_9206_Turkiye'de_Son_Donemde_Para_Po;
- [48]dp_9210_Capital_Account_Liberalization;
- [51]dp_9302_Forecasting_Contemporaneously_;
- [54]dp_9305_Para_Politikalarinin_Etkili_ve;
- [57]dp_9401_Parasal_Buyukluklerin_Yeniden_;
- [60]dp_9405_The_Search_for_Business_and/or;
- [63]dp_9410_Day_of_the_Week_Effects_:New_;
- [66]dp_9414_Konsolide_Butcede_Devresele_ve_;
- [69]dp_9503_Kur_Faiz_Iliskisi_Uzerine_Bir_;
- [72]dp_9506_Output_Inflation_Tradeoff_:Ev;
- [75]dp_9509_January_Effect_Yes_What_About;
- [78]dp_9512_Turkiye'de_Serbest_Doviz_Piyas;
- [81]dp_9515_Financial_Innovations_and_Mone;
- [84]dp_9602_Management_of_Exchange_Rate_Ri;
- [87]dp_9606_Is_There_a_Semi_Monthly_Effect;
- [90]dp_9609_Istanbul_Menkul_Kiyemter_Bors;
- [93]dp_9612_Stock_Market_Efficiency_in_a_D;
- [96]dp_9617_Problems_with_Issuing_Foreign_;
- [99]dp_9620_Dis_Ticaret_Aciginin_Dengelenm;
- [102]dp_9624_Problems_with_Stabilization_Pr;
- [105]dp_9627_Fransa'da_Ozellestirme_____;
- [108]dp_9702_Avrupa_Para_Birligi_ve_EURO_;
- [111]dp_9802_Taylor_Kurali_ve_Turkiye_Uygu;
- [114]dp_9902_Determinants_of_interest_rates;
- [117]dp_9908_Monetary_Conditions_Index_:A_;
- [120]dp_0001_Price_Cost_Margins_and_Trade_L;
- [123]dp_0004_Estimating_The_Underground_Eco;
- [126]dp_0101_Monetary_Transmission_Mechanis;
- [129]dp_0104_How_Did_They_Manage_the_Floati;
- [132]dp_0202_Uluslararası_Rekabet_Gucu_Gost;
- [135]dp_0205_Fayda_Teorisi_ve_Rasyonel_Seci;
- [137]dp_0207_On_the_Link_between_Dollarizat;
- [138]dp_0208_Robust_Targeting_Rules_for_Mon;

APPENDIX A (continued)

A Full List of Papers Examined

Working Papers

- [139]wp_9703_Para : Teorik Bir Tarama ve Ta; [140]wp_9704_1980'li_Yillardan_Gunumuze_Par; [141]wp_9801_The_Global_Crisis_and_The_Turk;
- [142]wp_9901_Modeling_the_Volatility_In_the; [143]wp_0201_Bankacilik_Sektorunun_Yabanci_; [144]wp_0202_Kamu_Kesimi_Itibariyle_Mali_Et;
- [145]wp_0203_The_Causality_Between_Financia; [146]wp_0204_The_Cyclicalilty_Of_Mark_Up_Rat; [147]wp_0205_The_Seasonal_Adjustment_of_the;
- [148]wp_0206_Bankalararasi_Para_Piyasasi___; [149]wp_0207_Inflation_Targeting_as_a_Monet; [150]wp_0208_Cari_Islemler_Hesabina_Cesitli;
- [151]wp_0209_Open_Market_Operations_In_Turk; [152]wp_0210_Inflation_Dynamics_and_Reactio; [153]wp_0211_Calculation_Of_Output_Inflatio;
- [154]wp_0212_2002_Yilinin_Ilk_Yarisinda_Sto; [155]wp_0213_Turkiye'de_Kamu_Kesimi_Ic_Borc; [156]wp_0214_Effects_of_the_Interest_Rate_D;
- [157]wp_0301_Optimal_Monetary_Policy,_Commi; [158]wp_0302_Prospects_for_Electronic_Money; [159]wp_0303_Electronic_Money_Free_Banking_;
- [160]wp_0304_Does_the_Exchange_Rate_Regime_; [161]wp_0305_Recent_Experiences_With_Capita; [162]wp_0306_Explaining_and_Forecasting_Inf;
- [163]wp_0307_What_Triggers_Inflation_in_Eme; [164]wp_0308_Banking_Sector_Fragility_and_T; [165]wp_0401_Trade_Protection_Measures_Agr;
- [166]wp_0401tur_lthalatta_Koruma_Onlemleri_; [167]wp_0402_Relative_Price_Variability_:T; [168]wp_0403_High_Public_Debt_and_Effects_o;
- [169]wp_0404_Importance_of_Base_Money_Even_; [170]wp_0405_Para_:Para_Hukuku_ve_Kaynakla; [171]wp_0406_Access_to_External_Finance_:T;
- [172]wp_0407_The_Impact_of_Firm_Specific_Ch; [173]wp_0408_Balancing_Turkey's_Intertempor; [174]wp_0409_Export_Supply_and_Import_Deman;
- [175]wp_0410_Optimal_International_Reserves; [176]wp_0411_Public_Debt_in_Turkey_____; [177]wp_0412_The_Demand_for_Base_Money_in_T;
- [178]wp_0413_Revealing_Turkey's_Public_Debt; [179]wp_0414_Nonlinearity_and_Structural_Ch; [180]wp_0415_Monetary_Policy_under_Imperfec;
- [181]wp_0501_A_Dynamic_Model_of_Central_Ban; [182]wp_0502_The_Price_Puzzle_in_Emerging_M; [183]wp_0503_Estimating_Output_Gap_for_the_;
- [184]wp_0504_Exchange_Rate_Pass_Through_in_; [185]wp_0505_Causes_and_Effectiveness_of_Fo; [186]wp_0506_The_Effectiveness_of_Foreign_E;
- [187]wp_0507_A_Monetary_Disequilibrium_Mode; [188]wp_0508_Effects_of_US_Interest_Rates_a; [189]wp_0509_Public_Sector_Price_Controls_a;
- [190]wp_0510_Exchange_Rate_Pass_Through_in_; [191]wp_0511_Monetary_Policy_Challenges_for; [192]wp_0512_Some_Evidence_on_the_Irrationa;
- [193]wp_0513_Information,_Capital_Gains_Tax; [194]wp_0514_Risk_Aversion,_Sovereign_Bonds; [195]wp_0515_The_Determinants_of_the_Price_;
- [196]wp_0516_Corporate_Sector_Debt_Composit; [197]wp_0517_Dolarizasyon_Endeksleri_:Turk; [198]wp_0601_Monetary_Policy,_Corporate_Fin;
- [199]wp_0602_Turkiye'de_Imalat_Sanayindeki_; [200]wp_0603_Turkish_Experience_With_Implic; [201]wp_0604_The_Determinants_of_Sovereign_;
- [202]wp_0605_A_Structural_VAR_Analysis_of_t; [203]wp_0606_The_Determinants_and_Implicati; [204]wp_0607_Corporate_Sector_Financial_Str;
- [205]wp_0608_Devlet_Ic_Borclanma_Senetleri_; [206]wp_0609_Convergence_Across_Provinces_o; [207]wp_0701_The_Evolution_and_Determinants;
- [208]wp_0702_Turkiye'de_Kamu_Borc_Stokunun_; [209]wp_0703_Exchange_Rates_and_Fundamental; [210]wp_0704_The_monetary_transmission_mech;
- [211]wp_0705_Interest_Rate_Pass_Through_in_; [212]wp_0706_Küresel_Finansal_Riskler_Karsi; [213]wp_0707_Monetary_Policy_and_External_S;
- [214]wp_0708_Empirical_Analysis_of_Structur; [215]wp_0801_Expectations,_Communication_an; [216]wp_0802_Oil_Price_Shocks,_Macroeconomi;
- [217]wp_0803_On_Roots_of_Housing_Bubbles___; [218]wp_0804_How_did_the_Turkish_Industry_R; [219]wp_0805_Entry_to_Export_Markets_and_Pr;
- [220]wp_0806_Can_Central_Bank_Interventions; [221]wp_0807_Tangos,_Sambas_or_Belly_Dancin; [222]wp_0808_Monetary_Pressures_and_Inflati;
- [223]wp_0809_Ilenmi_Gida_Fiyatlarini_Beli; [224]wp_0810_On_the_Stability_of_Domestic_F; [225]wp_0811_Turkiye'de_Para_Politikasinin_;
- [226]wp_0901_Inflation_Targeting_and_Exchan; [227]wp_0902_Sticky_Rents_and_the_Stability; [228]wp_0903_Design_and_Evaluation_of_Core_;
- [229]wp_0904_Financial_Market_Participation; [230]wp_0905_Para_Politikası,_Parasal_Büyük; [231]wp_0906_Monetary_Shocks_and_Central_Ba;
- [232]wp_0907_Wealth_Distribution_and_Social;

APPENDIX B

JEL Classification Codes

This appendix provides a list of JEL classification codes that were used in CBT's research papers. An asterisk indicates that the code itself has actually been used in at least one research paper. The parent codes are provided for convenience. For instance, C13 is given with an asterisk because it appeared in at least one paper. C1 and C, on the other hand, were not directly observed in any research paper, yet they are in the list as they are necessary to understand what C13 exactly is. If a letter code and its child codes have never been used in any paper, then that letter code is totally omitted. That is why JEL code Q is not listed below.

- A General Economics and Teaching
- B History of Economic Thought, Methodology, and Heterodox Approaches
- C Mathematical and Quantitative Methods
 - C1 Econometric and Statistical Methods: General
 - *C13 Estimation
 - *C15 Simulation Methods
 - C2 Single Equation Models; Single Variables
 - *C20 General
 - *C22 Time-Series Models; Dynamic Quantile Regressions
 - C3 Multiple or Simultaneous Equation Models
 - *C32 Time-Series Models; Dynamic Quantile Regressions
 - *C33 Models with Panel Data
 - *C35 Discrete Regression and Qualitative Choice Models; Discrete Regressors
 - *C39 Other
 - C4 Econometric and Statistical Methods: Special Topics
 - *C43 Index Numbers and Aggregation
 - C5 Econometric Modeling
 - *C50 General
 - *C51 Model Construction and Estimation
 - *C53 Forecasting and Other Model Applications
 - C6 Mathematical Methods and Programming
 - *C62 Existence and Stability Conditions of Equilibrium
 - *C63 Computational Techniques; Simulation Modeling
 - *C68 Computable General Equilibrium Models
- D Microeconomics
 - D1 Household Behavior and Family Economics
 - *D11 Consumer Economics: Theory
 - *D2 Production and Organizations
 - *D21 Firm Behavior
 - D4 Market Structure and Pricing
 - *D40 General
 - D5 General Equilibrium and Disequilibrium
 - *D51 Exchange and Production Economies
 - D8 Information, Knowledge, and Uncertainty
 - *D89 Other
- E Macroeconomics and Monetary Economics
 - *E1 General Aggregative Models
 - *E12 Keynes; Keynesian; Post-Keynesian
 - *E2 Macroeconomics: Consumption, Saving, Production, Employment, and Investment
 - *E22 Capital; Investment; Capacity
 - E3 Prices, Business Fluctuations, and Cycles
 - *E30 General
 - *E31 Price Level; Inflation; Deflation
 - *E32 Business Fluctuations; Cycles
 - *E37 Forecasting and Simulation
 - E4 Money and Interest Rates
 - *E40 General
 - *E41 Demand for Money
 - *E42 Monetary Systems; Standards; Regimes; Government and the Monetary System; Payment Systems
 - *E43 Determination of Interest Rates; Term Structure of Interest Rates
 - *E44 Financial Markets and the Macroeconomy
 - *E5 Monetary Policy, Central Banking, and the Supply of Money and Credit
 - *E50 General

APPENDIX B (continued)

JEL Classification Codes

- *E51 Money Supply; Credit; Money Multipliers
- *E52 Monetary Policy
- *E58 Central Banks and Their Policies
- *E6 Macroeconomic Policy, Macroeconomic Aspects of Public Finance, and General Outlook
- F International Economics
 - F1 Trade
 - *F13 Trade Policy; International Trade Organizations
 - *F14 Country and Industry Studies of Trade
 - *F17 Trade Forecasting and Simulation
 - *F3 International Finance
 - *F31 Foreign Exchange
 - *F32 Current Account Adjustment; Short-Term Capital Movements
 - *F33 International Monetary Arrangements and Institutions
 - *F34 International Lending and Debt Problems
 - *F36 Financial Aspects of Economic Integration
 - *F37 International Finance Forecasting and Simulation
 - F4 Macroeconomic Aspects of International Trade and Finance
 - *F41 Open Economy Macroeconomics
 - *F42 International Policy Coordination and Transmission
 - *F47 Forecasting and Simulation
- G Financial Economics
 - G1 General Financial Markets
 - *G10 General
 - *G11 Portfolio Choice; Investment Decisions
 - *G12 Asset Pricing; Trading volume; Bond Interest Rates
 - *G14 Information and Market Efficiency; Event Studies
 - *G15 International Financial Markets
 - G2 Financial Institutions and Services
 - *G28 Government Policy and Regulation
 - G3 Corporate Finance and Governance
 - *G30 General
 - *G32 Financing Policy; Financial Risk and Risk Management; Capital and Ownership Structure
- H Public Economics
 - H6 National Budget, Deficit, and Debt
 - *H62 Deficit; Surplus
 - *H63 Debt; Debt Management
- L Industrial Organization
 - *L1 Market Structure, Firm Strategy, and Market Performance
 - *L11 Production, Pricing, and Market Structure; Size Distribution of Firms
 - *L16 Industrial Organization and Macroeconomics: Industrial Structure and Structural Change; Industrial Price Indices
 - L2 Firm Objectives, Organization, and Behavior
 - *L25 Firm Performance: Size, Diversification, and Scope
 - *L6 Industry Studies: Manufacturing
- O Economic Development, Technological Change, and Growth
 - O1 Economic Development
 - *O16 Economic Development: Financial Markets; Saving and Capital Investment; Corporate Finance and Governance
 - O2 Development Planning and Policy
 - *O29 Other
 - O3 Technological Change; Research and Development
 - *O31 Innovation and Invention: Processes and Incentives
 - *O39 Other
 - *O5 Economywide Country Studies
- P Economic Systems
 - P2 Socialist Systems and Transitional Economies
 - *P20 General
- R Urban, Rural, and Regional Economics
 - R1 General Regional Economics
 - *R11 Regional Economic Activity: Growth, Development, and Changes
 - *R12 Size and Spatial Distributions of Regional Economic Activity
 - R2 Household Analysis
 - *R21 Housing Demand
 - R3 Production Analysis and Firm Location
 - *R31 Housing Supply and Markets