Regional Power Transition and the Future of Turkey

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To cite this article: Yeşilada, Birol Ali and Tanrıkulu, Osman Göktuğ, “Regional Power Transition and the Future of Turkey”, Uluslararası İlişkiler, Volume 13, No. 52, 2016, pp. 23-46.
ABSTRACT
This study analyzes the regional power transitions for Turkey. The authors utilize both the Power Transitions Theory and the Human Development Theory to foresee Turkey’s future regional relations. The findings indicate that Turkey’s relations with the EU, Russia and Iran will be quite challenging. According to the forecasting, the probability of conflict between Turkey-Russia and Turkey-Iran will increase. Compared to Iran, Turkey’s propensity of conflict with Russia will be higher. Only in a scenario of joining the EU, Turkey’s probability of conflict with Russia and Iran decreases. EU membership stabilizes Turkey’s most challenging regional relationships. On the other hand, Human Development Dynamics demonstrate that Turkey is moving away from major European countries in terms of values, becoming less secular and more traditional. Our statistical models display that value convergence is a significant factor in integration, indicating that the likelihood of Turkey’s European integration is slim.

Keywords: Power Transitions, Human Development, Regional Hierarchy, Values, Integration.

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ÖZET

Anahtar Kelimeler: Güç Aktarımını, İnsani Kalkınma, Bölgesel Hiyerarşı, Değerler, Entegrasyon.
Introduction

There is no doubt that post-Cold War era has resulted in major shifts in balance of power in the European theater and has led to serious competition between regional powers in terms of economic and security interests. In light of deepening competition between major players of Europe, this paper applies Power Transition Theory to analyze changing regional power dynamics in the European theater and assesses future relations of Turkey with its key neighbors – the European Union, Iran and Russia. It analyzes power relations between these major regional actors and examines probability of conflict or cooperation/integration between them in the foreseeable future.

The findings of this paper reveal critical challenges for EU-Turkey, Russia-Turkey, and Iran-Turkey relations in the foreseeable future. Turkey’s probability of conflict with Russia and Iran will increase. However, if Turkey joins the EU, the propensity of conflict with these major regional powers significantly decreases. Yet, Turkey’s likelihood of becoming a full member is unlikely in the near future. An analysis of values exposes divergence between the values of Turkey and the foremost EU countries. The statistical modeling displays how value convergence plays a crucial role in EU integration.

Theoretical Framework

Our analytic framework draws from two different theories that capture systemic/regional power shifts and societal values changes: Power Transition Theory (PTT) and Human Development Theory (HDT). Power Transition Theory provides a useful perspective to analyze how the EU would fair in its global competition with other great powers. This theory is based on A. F. K. Organski’s pioneering work that describes a hierarchical global system.\(^1\) According to this theory, the distribution of power in the international system is uneven. It specifies the relative roles of nations within this hierarchy, the system of governing rules, and then outlines how powerful countries attempt to manage global politics. PTT paints a picture of world politics that is integrated horizontally and vertically.\(^2\)

Additional application of this theory is found in Lemke who made a major breakthrough moving PTT toward a general theory of world politics by demonstrating the applicability of this perspective to regional hierarchies.\(^3\) His careful empirical analysis shows that the same principles that hold at the global level define interactions within regional hierarchies as shown in Figure 1. Members of regional hierarchies interact with each other. Understanding regional hierarchies adds complexity and generality to the PTT. Global powers like the US, the EU, Russia and soon China can directly intervene to alter outcomes in a region. They are able to interact, of course, but on matters of strategic importance it is a one-way street. There is more reason and opportunity for global powers to intervene in those other regions.\(^4\) This interferes with the ability of regional powers to operate under the normal rules. Lemke informs us that the rules within regional hierarchies

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normally match those at the global level but the ability of global powers to intervene does not make this an exact parallel.\footnote{Lemke, Regions of War and Peace; Douglas Lemke and William Reed, “Regime Types and Status Quo Evaluations: Power Transition Theory and the Democratic Peace,” International Interactions, Vol.22, No.2, October 1996, p.143–164.}

Dynamically, the theory stipulates that political interactions among nations are based on the varying commitment among national elites to the existing institutional status quo. This broad acceptance of international rules and norms determines whether a country is satisfied or dissatisfied with its position in the hierarchy and trust that the institutions created advances their interests. The most powerful nations hold a position at the top of the global or regional hierarchy. The dominant nation attempts to manage the regional system with a coalition of stable, satisfied supporters. When agreement is in place, the dominant nation can ease the process of integration. When disagreements emerge among large nations who do not trust the institutions created, integration comes to a standstill or recedes. PTT tells us that currently, the United States is the dominant power in the international power hierarchy. According to the same perspective, at present, the great powers are China and the EU and they are also regional powers in their respective geographic regions (Figure 1).

**Figure 1.** Global and Regional Hierarchies

In addition, PTT includes the concept of hierarchal relationships among global and regional powers. An unordered hierarchy is one where most nations hold roughly equal shares of power. This situation presents the most likely conditions for conflict and the least likely conditions for integration.\footnote{Efird, Kugler, and Genna, “From War to Integration”.} The reason is that nations in uniform hierarchies face few power constraints and are only restrained by the degree of satisfaction with the status quo. In the absence of a regionally dominant country supporting the status quo, competition among two or more contenders is the rule to resolve disputes among parties that vie for control of the region. Thus, conflict is more likely to occur within a uniform hierarchy as each contender with different interests and incentives attempts to impose its influence upon the region. In uniform hierarchies, the larger powers focus on protecting themselves from emerging challengers. In this context even when nations are satisfied with each other, cooperation is less likely.
Asymmetric hierarchies are characterized by power concentrated in the hands of a dominant global or regional power that establishes and supports the status quo. In structural environments where the dominant nation is at least twenty percent stronger than any contender, the hierarchy is deemed ordered. The dominant nation can spend more of its resources ensuring the best support possible for the economic and political terms established in the status quo. In an asymmetric environment, war may still be waged, but it is less likely and will result in relatively low casualties – as is the case in the ongoing “war against terrorism”. Efird, Kugler and Genna and then Efird and Genna extended the theory and argued that the development of regional integration after a power transition between two satisfied powers improves because the formerly less powerful country has a vital interest in not only maintaining but also furthering and institutionalizing the arrangements that it believes to have contributed to its rise.

Another important factor in understanding how governments react to opportunities and challenges associated with regional dynamics that lead to either cooperation or conflict, that could range from war to integration, is found in how close their respective societies are toward each other in terms of their value systems. That is, how do similar value systems of societies affect relations between states? This is not a factor that has been used in international relations literature in explaining probability of conflict or integration (or cooperation) to the extent employed by sociologists and comparative politics scholars when testing the reasons behind emergent norms and how shifts in values can lead to rise of democratic states. We believe that inclusion of values in testing regional integration is a crucial factor that should be considered. Literature in this field is rich and varied.

Human Development Theory (HDT) addresses how social and political cultures evolve over time and the implications of cultural development for political development. Imbedded in this question one also finds inquiry about how economic progress and religious factors affect changes in values and peoples’ choice for political system. These are complex issues that have been central to a wide range of social science disciplines from economics, politics, and sociology to cultural anthropology. How and why human values change and how these changes affect the way societies govern themselves has kept scholars busy for a long time. In the more contemporary era, since the late 18th Century, social scientists have identified causal linkages between economic modernization, cultural change, and political development. The HDT provides a plausible framework that expands the breadth of development processes to include cultural, social and political effects to account for modernization across societies. The basic premise of the HDT is that socioeconomic development

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results in profound changes in basic human values that shape politics. But how is it that these values lead to change in political system of governance that can be characterized as democratic? In this regard, Inglehart and Welzel provide some direction through their two compound variables that capture more than 78 percent of cross-national variance in social change across the world. These variables capture individual’s relative religiosity and social values along two dimensions: traditional-secular and materialist-post materialist values.\(^{11}\)

Empirical evidence supports the claims of HDT that economic progress (measured as real GDP per-capita) has positive and statistically significant effects on each value orientation. Empirical studies by Inglehart and other World Values Survey scholars show a relationship between economic prosperity on the one hand and rationalist values and post-materialist values on the other with above-mentioned variations based on cultural effects. Likewise, Welzel provides robust empirical support for the relationship between economic “means,” cultural “motives,” and political “rules.”\(^{12}\) Most recently, Mark Abdollahian, Travis Coan, Hana Oh, and Birol Yesilada tested the HDT by an agent-based dynamic model that found support for the sequence of human development.\(^{13}\) Consistent with qualitative HDT and empirical reality, their model shows a complex adaptive system perspective on HDT: Economic progress is a necessary condition for successful secularization and expressive political behavior, which are antecedents for lasting democratic institutions. While modernization is not inevitable, their results support empirical observations for a staged process where increasing existential security via economic development leads to increased emphasis on rational-secular and self-expressive values that results in societal development. Here, they also found that rational-secular norms strongly impact economic growth and speed up the pace of development more than self-expressive societal values alone. Based on these theoretical arguments, we analyze how regional integration in the EU is affected by changes in power, regional hierarchy, and values structures of member states.

**Power Transition in the European Theater**

To simplify the analysis, we only focus on Turkey, top states in the EU and Russia as major actors of the European region. When we look at how relative power of the EU members are shifting over time, we see convergence among some of the key states, while Germany maintains its dominance as shown in Figure 2a and for the more immediate region for Turkey which is the Caucasus in Figure 2b. In these Figures, the size of the bubble represents per capita productivity (measured in purchasing power parity), and the position of each bubble is the relative share of the respective country’s economic power in combined value of all economies of these countries in a given year. As the results show, EU’s position is on a steady decline which is consistent with our earlier findings when we compared EU with the US, China and India.\(^{14}\)


\(^{13}\) Abdollahian *et.al.*, “Dynamics of Cultural Change: The Human Development Perspective”.

\(^{14}\) Yeşilada, Efird, and Noordijk, “Competition among Giants”.
Figure 2a. Forecasting Power Transition in the European Theater

Figure 2b. Forecasting Power Transition between Iran, Israel, and Russia in the Caucasus

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Within the EU, it is important to note that Germany is dominant throughout the period but its leadership position is on a steady decline. This dominance extends to the period before the collapse of the USSR, which then East Germany was a separate entity from West Germany. France, the United Kingdom and Italy maintain parity for the first 15 years under consideration when Italy declines sharply. From the Power Transition perspective, therefore, the preconditions for conflict were present among these three nations during the first 15 years and continued until this day among France and the United Kingdom. Germany, a declining dominant nation since 1991 maintains superiority and is likely to be capable of sustaining the status quo. Figures also shows significance of Russia and Iran for Turkey as regional competition between these countries move towards parity in power capability during the next two decades. As explained in Power Transition Theory, countries are more likely to enter into conflictual relations when their power capabilities reach parity if they are also dissatisfied with the status quo (current state of affairs/rules in the regional and global system). Given these projections, we can estimate the probability of conflict-cooperation between these dyadic relationships (EU-Turkey, Turkey-Russia, and Turkey-Iran) using the following formula:

\[ CI = RP - S (RP^3) + H_c + H_D \]

where:
- \( CI \) = Conflict – integration continuum
- \( RP \) = Relative power
- \( S \) = Level of satisfaction with the status quo
- \( H_c \) = Hierarchy of the challenger
- \( H_D \) = Hierarchy of the dominant power

Relative Power (RP) is the capacity of one nation to influence another either by persuasion or by force. The more relatively powerful a nation is, the more capable it is to impose its preferences on the others in its hierarchy. Utilizing the above formula, we run simulations to forecast conflict-cooperation until 2050. The GDP data of International Futures version 6.69 is used in the model.\(^{16}\) Closer the level of GDP of the challenger to the dominant power, the less orderliness there is in that hierarchy. Therefore, the higher the level of the challenger’s GDP relative to the hegemon’s, the lower the level of orderliness will be in the European hierarchy. This situation is captured by the formula because an increase in RP will be reflected as an increase in the conflict-integration score, meaning a higher probability of conflict.

The satisfaction variable represented with “S” in the formula defines whether the RP will create conflict or not. In classic Power Transitions analysis, the similarity of alliance portfolios has been used to measure the level of satisfaction with the status quo. The similarity of alliance portfolios is calculated via dyadic relationships. It is inferred that dyads with similar portfolios are satisfied with each other’s view of the international system or dyadic relationship, and those with dissimilar portfolios are regarded as less satisfied with each other. However, this measurement comes with two fundamental

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problems in terms of what this paper assesses. First, similarity of alliance portfolios does not directly account for the status quo. Second, dyadic relationship does not capture the behavior or interaction of multiple countries. Encapsulating multiple countries functioning is significant especially when there is a certain level of integration between countries. When countries go into integration, the rules and guidelines of the integration become the status quo. In this situation, to be able to account satisfaction, one should directly focus on integration instead of dyadic alliance similarities. Therefore, directly representing the European integration, trust and membership variables capture the level of satisfaction with the status quo. As we will explain later, another measure that captures value similarities between societies could provide additional explanation for satisfaction.

The cubed RP term in the formula captures the propensity for conflict in PTT. If the RP term in the interactive part of the equation was linear, each unit increase of RP would cause equal increases on the conflict-integration continuum. If RP was squared, it would not reflect the likelihood of conflict at parity points. Since $RP = \frac{\text{Power}_{\text{Challenger}}}{\text{Power}_{\text{Dominant}}}$, the formula should reflect the probability of conflict once the relative power of the challenger increases in terms of the dominant power. It is anticipated that the likelihood of conflict peaks when the challenger and the dominant power are in parity. For this reason, squaring RP would underemphasize the amount of conflict. However, cubing RP gives the highest propensity for conflict right after the challenger passes the parity point with the defender. Additionally, the cubed RP also reflects the higher probability of cooperation when the asymmetry between the dominant power and the challenger increases.

$H_D$ and $H_C$ reflect the relative power of the dominant power in terms of all the contenders in the region. The calculations of these variables are as follows:

$$H_D = \frac{\text{Power}_{\text{Regional/Dominant}}}{\sum \text{Power}_{\text{Regional/Contenders}}}$$

$$H_C = \frac{\sum \text{Power}_{\text{Regional/Contenders}}}{\text{Power}_{\text{Regional/Dominant}}}$$

When the power of the dominant country decreases compared to the contenders in the hierarchy, the total of $H_C$ and $H_D$ increases to reflect the increasing propensity for conflict. When the powers of the challengers increase compared to the dominant power, $H_C$'s increase will be more than $H_D$'s decrease to reflect higher propensity for conflict.

Figures 3a-c provide results for probability of conflict and cooperation/integration between EU-Turkey, Turkey-Russia, and Turkey-Iran. Results are quite telling. No conflict is projected in EU-Turkey relations. As a matter of fact, neutral relations seem to be the future for this dyad indicating lack of further integration as well. We also observe a serious potential for gradually increasing conflict between Turkey and Iran that is consistent with their competition in the Caucasus and Northern Middle East (Fertile Crescent). With regard to Turkey-Russia dyad, our findings show potential for these countries to engage in more conflictual, instead of neutral or cooperative, behavior as they reach power parity in the next 20 years.
Gradually increasing conflict between Turkey and Iran that is consistent with their competition in the Caucasus and Northern Middle East (Fertile Crescent). With regard to Turkey-Russia dyad, our findings show potential for these countries to engage in more conflictual, instead of neutral or cooperative, behavior as they reach power parity in the next 20 years.

Figure 3a. Forecasting Conflict-Cooperation: EU27-Turkey, 2000-2050

Figure 3b. Forecasting Conflict-Cooperation: Turkey-Iran, 2000-2050
The most interesting scenario is obtained when we consider Turkey’s membership in the EU. If this country were to join the EU, its future relations with Iran and Russia would move from potential conflict to a cooperative/neutral plane because parity between them would disappear (see Figure 4a and 4b). Despite these findings, likelihood of Turkey joining the EU in any time soon seems quite remote, and it could very well be a missed opportunity to bring stability to Turkey’s immediate relations with Iran and Russia. That stability is also crucial for strategic security interests of the EU. However, leadership in Brussels and EU member states seem oblivious to the importance of Turkey’s membership for Europe’s security.

Figure 4a. Forecasting Conflict-Cooperation between EU + Turkey and Iran
Given these findings, we decided to see how likely it would be for EU and Turkey to reconcile their differences and return to more cooperative relations that could result in Turkish membership. For this we decided to look at value similarities between societies as a measure of who seems to coming closer to one another. Our rationale for this measure is twofold. First, citizens’ views in EU countries have become more important in matters pertaining to relations with other countries and critical issues like migrants and asylum seekers since signing the Maastricht Treaty. Moreover, peoples’ voice and direct input into EU decision-making is now guaranteed under the Lisbon Treaty. Second, as societal values converge over time, it is more likely for these countries’ leaders to forge cooperation and integration between their countries. Figure 5 provides the results from the World Values Survey for the I-W indicators of materialist-post-materialist and traditional-secular values over time where these two indicators capture over 70 percent of variance in social values over time. We also estimated the measure of “value distance” between the countries to show degree of convergence between dyads. The arrows indicate the change in direction for each country and each point represents average factor loadings along the two measures.
The values map displays not just the type of values countries has, but also how much they change over time and how close countries are to each other in terms of these values. The data on the map starts from 1991 and the direction of the arrows demonstrate 1996, 2000, 2005 and 2011 for each country respectively. Accumulated in the upper right quadrant, top European countries exhibit secular and post materialist values. Even though Poland is on the traditional side of the coordinate system, it is moving towards the values of the group: Germany, France, Britain, Italy, and Spain. Turkey is not only far away from the group but also moving towards the traditional end of the spectrum. Another distant actor is Russia. In contrast to Turkey, Russia is on the secular side of the coordinate system; however, Russian values are distant to the top EU group for being highly materialistic (being more concerned with survival rather than postmodern values).

In order to examine how these developments are likely to impact deepening of integration in the EU, we considered two models:

Model 1: Integration (between EU members - dyadic) as a function of value convergence, relative position to regional leader and power.

\[ IAS = \alpha + \beta_1 ValueConv + \beta_2 RelativePos + \beta_3 Power + e \]

Model 2: Integration (between leader and each member) as a function of values convergence, hierarchy, and relative power.

\[ IAS_{Ger} = \alpha + \beta_1 ValueConv + \beta_2 Hierarchy + \beta_3 RelativePower + e \]

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For our dependent variable, we use the integration achievement score (IAS) of Gaspare Genna (Appendix 3). The IAS measures the level of integration among EU countries. The data set is updated until 2011, and Turkey’s score is recalcuated as 1.16 in order to reflect its Customs Union membership since 1996. Russia is also added to the analysis with a score of 0 since it does not have any level of integration with the countries that are included in the model. The distance between value points of countries is called ‘value convergence’ used in the three models. Value convergence is used as an explanatory variable in terms of analyzing the level of integration. This variable is calculated by using the Euclidean distance formula:

\[ d = \sqrt{(X_a - X_b)^2 + (Y_a - Y_b)^2}. \]

Value convergence with the regional leader is depicted in Figure 6. According to this figure, among the major EU countries, France is the closest country to the leader in terms of values. After France, Spain and Italy have near values with Germany. Compared to these three, the UK and Poland fall farther away from the leader.

**Figure 6. Value Convergence with the Regional Leader: Germany**

In addition to value convergence, we employ two other independent variables to explain level of integration. The second independent variable is ‘relative position’ of a member state to the regional leader (Germany). This measures the difference between the distances of any two member states to Germany.

\[ \text{RelativePosition} = |\text{Valueconver}_\text{GMY-UK} - \text{Valueconver}_\text{GMY-FR}| \]

This is crucial because it shows the degree of similarity of relative distance to the regional leader. The third independent variable is power. We use power to see if the relative capability of a

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country influences the level of integration with other countries. For example, power calculation for the Germany-France dyad would be as follows for every year:

\[ \text{Power}_{\text{GMY-FR}} = \frac{\text{GDP}_{\text{GMY}}}{\text{GDP}_{\text{FR}}} \]

The second model tests if value convergence with Germany, the regional leader, plays a specific role in integration. In this model the unit of analysis is the dyadic relationship of the top EU countries with Germany with the above variables employed.

**Results**

Table 1 displays the statistical results of the two models. Since IAS takes only five values, both of the models utilize ordinal regressions. Findings are both important and have significant policy implications. Appendices 1-2 provide the details of these statistical runs.

**Table 1. Statistical Results of the Models**

<table>
<thead>
<tr>
<th></th>
<th>Model 1 Integration</th>
<th>Model 2 Leadership</th>
</tr>
</thead>
<tbody>
<tr>
<td>Threshold [IAS = .0000]</td>
<td>-3.753*** (.366)</td>
<td>-20.595*** (3.232)</td>
</tr>
<tr>
<td></td>
<td>-2.679*** (.346)</td>
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<tr>
<td></td>
<td>-2.245*** (.344)</td>
<td>-18.763*** (3.080)</td>
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<tr>
<td></td>
<td>-0.047 (.344)</td>
<td>-15.128 (2.828)</td>
</tr>
<tr>
<td>Power</td>
<td>.935* (.375)</td>
<td>--</td>
</tr>
<tr>
<td>Value Convergence</td>
<td>-1.905*** (.150)</td>
<td>-6.566*** (1.218)</td>
</tr>
<tr>
<td>Relative Position</td>
<td>-1.177*** (.172)</td>
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</tr>
<tr>
<td>Hierarchy</td>
<td>--</td>
<td>-32.416*** (9.022)</td>
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<tr>
<td>Relative Power</td>
<td>--</td>
<td>-3.47* (.138)</td>
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<tr>
<td>Constant</td>
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<td>R^2</td>
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<td>Pseudo R-Square</td>
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<tr>
<td></td>
<td>Nagelkerke .509</td>
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<tr>
<td>N</td>
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<td>110</td>
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**Notes:** Unstandardized coefficients reported, standard errors in parentheses; one-tailed significance tests: ***p≤0.000, **p≤0.005, *p≤0.010.
Results in Model 1 show that values convergence has a greater impact on integration than power. The lower the value distances between countries, the higher the level of integration between them. In other words, the more countries are closer in terms of values, the higher their level of integration will be. Similarly, the difference in their relative value position to that of the regional leader is also predictor of level of integration as indicated by variable Relative Position (RelatPosition -1.177 and sig @ 0.000). The closer the value distances between countries in terms of the regional leader, the higher the probability of integration between them. The value similarity of countries compared to the leader has predictable value in terms of integration. The pseudo r-squares indicate that close to 50% of the variation is explained by the model. In other words, values of societies and economic capability account for almost half of the integration among countries.

In Model 2, we observe a much larger significant coefficient for values convergence than in Model 1. This means that, value convergence with the leader has a higher weight on integration compared to the value distance between other member states. Hierarchy has a strong negative coefficient in this model meaning that the lower the position of a country on the hierarchy, the higher the probability of it becoming more integrated with the leader. According to these results, we expect to see that when there are strong contenders in the region, countries that are at the lower end of the hierarchy would look to integrate with the regional leader. Since this model employs dyadic relationships, power variable (GDP_Ger / GDP_Challenger) was also tested. We found it to be insignificant. Therefore, we substituted Relative Power and obtained statistically more reliable results. Still, the place of the country on regional hierarch is far more important that its relative power vis-à-vis other countries in the group.

Conclusions

Findings in this study reveal important challenges for Turkey as regional power transition progresses in her neighborhood and suggest serious implications for EU-Turkey, Turkey-Iran and Turkey-Russia relations. First, findings support PTT’s argument that as challengers reach parity with the regional hegemon, probability of conflict between them is likely to increase if they are not satisfied with the status quo. We observe this in Turkey’s relations with Iran and Russia. Turkey and Iran are currently near parity and will continue to be so for the near future. Therefore, these two unsatisfied actors of the region are likely to engage in conflictual relations, at differing levels, as they try to increase their influence and power. A similar scenario is also observed in Turkey-Russia dyad but with a 10-15 year delay. As Russia’s relative power declines and Turkey’s power increases, the two are likely to become more conflictual in the future. An interesting outcome is observed in what would become of these dyadic relationships if Turkey were to become a member of the EU. Our simulation results reaffirm earlier findings of Yesilda, Efird, and Noordijk19 that Turkey’s membership would stabilize relations between Turkey-Iran and Turkey-Russia where these dyads would become more neutral in the future. Though these findings suggest that it would be in the interest of the EU to bring Turkey into the Union, chances of that happening seems quite remote. Our examination of societal values convergence exposed significant divergence that would not support closer relations between EU and Turkey.

According to the results obtained from Models 1 and 2, value convergence with the regional leader boosts integration process and value convergence of major regional countries vis-à-vis regional leader brings about further deepening of integration. That is, as values of member states converge

19 Yesilda, Efird, and Noordijk, “Competition among Giants”. 
and move closer to the regional leader, ever-closer union is likely to emerge. We also see that position of states on the regional hierarchy plays a determining factor in this process. Those members that are at the bottom of the hierarchy are likely to form closer ties with the regional power than they are with the rising challenger(s). Findings suggest that we also need to take into account the weight of the country in the region. Results indicate that the higher the position of a country on the regional hierarchy, the lower the probability to integrate with the regional leader. This is also consistent with Power Transition argument. Therefore, if one of the major powers has limited value convergence with the leader, the probability of conflict between the two is likely to increase. As for the two regional countries that are crucial for regional power transition, we see no bright future in their relations with the EU. Both Russia and Turkey show no values convergence with Germany or any other EU member considered in this study. Their future relationship with EU is likely to be more distant than moving in the direction of deeper integration. Thus, we expect gradual increase in regional rivalry between Turkey, Iran, and Russia that would have profound implications for stability in the European theater.
Appendix 1 – Model 1: Integration

The model utilizes an ordinal regression. When we look at the scatter box in Figure A1, we see that IAS takes strictly 5 values. Therefore, it is more logical to treat the dependent variable as an ordinal variable. According to the model fitting information, the model improves our ability to predict the outcome. The goodness-of-fit table tells us that our observed data is consistent with the model we fitted to it; the data fits the model. Compared to value convergence and relative position, power’s statistical significance is weaker. Lastly, the test of parallel lines table tells us that the odds for each explanatory variable are not consistent across different thresholds of the outcome variable. However, this result is not important for this study. Instead of the categorical fit, we are more concerned with the overall relationship and connection of the explanatory variables with integration.

Figure A1. Data distribution between IAS and value convergence
PLUM - Ordinal Regression

Case Processing Summary

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<th>Marginal Percentage</th>
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Model Fitting Information

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<td>1302.012</td>
<td>391.943</td>
<td>3</td>
<td>.000</td>
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</tbody>
</table>

Link function: Logit.

Goodness-of-Fit

<table>
<thead>
<tr>
<th></th>
<th>Chi-Square</th>
<th>df</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson</td>
<td>1997.865</td>
<td>2401</td>
<td>1.000</td>
</tr>
<tr>
<td>Deviance</td>
<td>1302.012</td>
<td>2401</td>
<td>1.000</td>
</tr>
</tbody>
</table>

Link function: Logit.

The null hypothesis: The model is a good fit

Pseudo R-Square

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
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</thead>
<tbody>
<tr>
<td>Cox and Snell</td>
<td>.479</td>
</tr>
<tr>
<td>Nagelkerke</td>
<td>.509</td>
</tr>
<tr>
<td>McFadden</td>
<td>.231</td>
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</table>

Link function: Logit.

Parameter Estimates

<table>
<thead>
<tr>
<th></th>
<th>Estimate</th>
<th>Std. Error</th>
<th>Wald</th>
<th>df</th>
<th>Sig.</th>
<th>95% Confidence Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Lower Bound</td>
</tr>
<tr>
<td>Threshold [IAS = .0000]</td>
<td>-3.753</td>
<td>.366</td>
<td>104.901</td>
<td>1</td>
<td>.000</td>
<td>-4.471</td>
</tr>
<tr>
<td>[IAS = 1.1600]</td>
<td>-2.679</td>
<td>.349</td>
<td>59.072</td>
<td>1</td>
<td>.000</td>
<td>-3.362</td>
</tr>
<tr>
<td>[IAS = 2.6670]</td>
<td>-2.245</td>
<td>.344</td>
<td>42.628</td>
<td>1</td>
<td>.000</td>
<td>-2.919</td>
</tr>
<tr>
<td>[IAS = 3.1670]</td>
<td>-.047</td>
<td>.344</td>
<td>.019</td>
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<td>.892</td>
<td>-.721</td>
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<tr>
<td>Location power</td>
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<td>.375</td>
<td>6.205</td>
<td>1</td>
<td>.013</td>
<td>.199</td>
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<tr>
<td>valueconv</td>
<td>-1.905</td>
<td>.150</td>
<td>162.319</td>
<td>1</td>
<td>.000</td>
<td>-2.198</td>
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<tr>
<td>relativep0</td>
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<td>.172</td>
<td>46.768</td>
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<td>.000</td>
<td>-1.514</td>
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Link function: Logit.
Test of Parallel Lines

<table>
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<tr>
<th>Model</th>
<th>-2 Log Likelihood</th>
<th>Chi-Square</th>
<th>df</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Null Hypothesis</td>
<td>1302.012</td>
<td>138.864</td>
<td>9</td>
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</tr>
<tr>
<td>General</td>
<td>1163.148b</td>
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<td></td>
</tr>
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</table>

The null hypothesis states that the location parameters (slope coefficients) are the same across response categories.

a. Link function: Logit.

b. The log-likelihood value cannot be further increased after maximum number of step-halving.

c. The Chi-Square statistic is computed based on the log-likelihood value of the last iteration of the general model. Validity of the test is uncertain.
Appendix 2 – Model 2: Leadership

Case Processing Summary

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Marginal Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>IAS .00</td>
<td>14</td>
<td>12.7%</td>
</tr>
<tr>
<td>2.67</td>
<td>12</td>
<td>10.9%</td>
</tr>
<tr>
<td>3.17</td>
<td>45</td>
<td>40.9%</td>
</tr>
<tr>
<td>3.50</td>
<td>39</td>
<td>35.5%</td>
</tr>
<tr>
<td>Valid</td>
<td>110</td>
<td>100.0%</td>
</tr>
<tr>
<td>Missing</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>110</td>
<td></td>
</tr>
</tbody>
</table>

Model Fitting Information

<table>
<thead>
<tr>
<th>Model</th>
<th>-2 Log Likelihood</th>
<th>Chi-Square</th>
<th>df</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept Only</td>
<td>272.217</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Final</td>
<td>166.730</td>
<td>105.487</td>
<td>3</td>
<td>.000</td>
</tr>
</tbody>
</table>

Link function: Logit.

Goodness-of-Fit

<table>
<thead>
<tr>
<th></th>
<th>Chi-Square</th>
<th>df</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson</td>
<td>200.000</td>
<td>324</td>
<td>1.000</td>
</tr>
<tr>
<td>Deviance</td>
<td>166.730</td>
<td>324</td>
<td>1.000</td>
</tr>
</tbody>
</table>

Link function: Logit.

Pseudo R-Square

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Cox and Snell</td>
<td>.617</td>
</tr>
<tr>
<td>Nagelkerke</td>
<td>.673</td>
</tr>
<tr>
<td>McFadden</td>
<td>.388</td>
</tr>
</tbody>
</table>

Link function: Logit.

Parameter Estimates

<table>
<thead>
<tr>
<th></th>
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<th>Std. Error</th>
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<th>df</th>
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</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Lower Bound</td>
</tr>
<tr>
<td>Location valueconv</td>
<td>-6.566</td>
<td>1.218</td>
<td>29.044</td>
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<td>.000</td>
<td>-8.954</td>
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<tr>
<td>RPgroup</td>
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<td>.138</td>
<td>6.303</td>
<td>1</td>
<td>.012</td>
<td>-6.617</td>
</tr>
</tbody>
</table>

Link function: Logit.
Appendix 3: Integration Achievement Score (coding system)

(1) Trade in Goods and Services
0 = No agreements made to lower tariffs and non-tariff barriers
1 = Preferential Tariff Agreement
2 = Partial Free Trade Area
3 = Full Free Trade Area
4 = Customs Union (Common External Tariffs)
5 = No barriers among member countries

(2) Degree of Capital Mobility
0 = No agreements made to promote capital mobility
1 = Foreign Direct Investment allowed in limited form
2 = Capital withdrawal allowed
3 = Full access for foreign investment and capital withdrawal, except for national government procurement
4 = Full capital mobility expect for large scale mergers and acquisitions
5 = Full capital mobility without restriction

(3) Degree of Labor Mobility
0 = No agreements made to promote labor mobility
1 = Right of movement granted for select professions
2 = Full right of movement
3 = Transferability of professional qualifications granted
4 = Transferability of pensions and other retirement devices
5 = Full freedom of movement

(4) Level of Supranational Institution Importance
0 = No supranational institutions
1 = Establishment of nominal institutions
2 = Information gathering and advisory role
3 = Ability for institutions to amend proposals
4 = Ability for institutions to veto proposals
5 = Supranational institutions operate as primary decision node

(5) Degree of Monetary Policy Coordination
0 = No monetary policy coordination
1 = Consultation regarding policy
2 = Commitment to maintain parity
3 = Coordinated interventions
4 = Regional Central Bank establishment
5 = Single currency
(6) Degree of Fiscal Policy Coordination
0 = No fiscal policy coordination
1 = Consultation regarding policy
2 = Commitments regarding deficit spending and taxation
3 = Sanctions regarding breaking commitments
4 = Uniform tax code
5 = Single budget

• Each category has a value of 0 (low) through 5 (high) along a Guttman scale:

\[
IAS = \frac{\sum_{i=1}^{6} C_i}{6}
\]

20 For description of Guttman scale see http://www.socialresearchmethods.net/kb/scalgutt.php.
References


