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CHAPTER 1

**THE TALE OF LEFT-LIBERAL
INTELLECTUAL IN TURKEY: ROOTS
AND CONCERNS**

Eylem Akdeniz GÖKER¹

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THE TALE OF LEFT-LIBERAL INTELLECTUAL IN TURKEY: ROOTS AND CONCERNS¹

The term ‘intellectual’ has always implied a political connotation within the Turkish political history. Beginning with the early modernization movements, the intellectuals of the country have always been the vanguards of the modernization process and the political agents of Turkish political realm. In other words, in Turkey being an intellectual amount to taking a political action (Belge, 1989). In that respect, ‘the political’ was the realm within which the constitutive aspects of the intellectual identity had been shaped and constructed. It was not until the eighties that such an understanding lost its prominence. Eighties implied the decline of the prominent role accorded to the realm of ‘the political’ as the site upon which intellectual identity was to be constructed. The period, while implying a deviation from the traditionally adopted paradigm of Turkish intellectual (that of, ‘saving the state’), has also given birth to a new kind of intellectual distancing himself/herself not only from the state but also from the very realm of “the political”. In the early nineties, a new profile has appeared on the ground. As has been contended by Erdoğan and Üstüner, intellectual of the nineties, in contrast to his/her former predecessors, preferred to utilize the concept of ‘consensus’ and based his/her understanding of “the political” upon this single concept. Politics continued to exist as the major source of inspiration for the intellectual development. Yet, at this time its content was exposed to a significant change and reduced to “a practice of recognizing the other and of reaching a consensus, reject the friend-enemy relations, regard “ideological” or antagonistic conceptions of politics as illegitimate, and limit the sphere of the political to a democratic play of differences and a plurality without antagonism” (Erdoğan and Üstüner, 2002:196). Relying on this understanding of “the political”, intellectuals have gathered around “post-political discourses” (Erdoğan and Üstüner, 2002) of second republicanism, civil Islamism, and post-liberalism. Often incorrectly located in those categorizations, left-liberal intellectuals seemed to be an exception. Seemingly sharing some common considerations, roots, and theoretical concerns with those categories they held a distinctive position in the intellectual and political sphere. They display considerable differences with the post-liberal figures on several grounds. In this chapter, the earlier roots of left-liberal thinking will be addressed, and major theoretical underpinnings of the approach will be debated. The left-liberals who found the fertile ground to flourish in the late nineties and early 2000s have lost their symbolic power and legitimacy in the following decades. This somehow, does not imply that they no more exist in Turkey’s

1 This article extensively relies upon the fourth chapter of PhD dissertation titled *The Democrat as a Social Type: The Case of Turkey in the 1990s*, submitted to Graduate School of Economics and Social Sciences, Bilkent University in 2011.

cultural or political field. On the contrary, their influence continues to exist, but this power has been significantly eroded parallel to the democratic backsliding and de-Europeanization in Turkey. However, this category still deserves to be analyzed regarding its repercussions upon the Turkey's political landscape and ideological realm.

Conceptual Remarks: Left-Liberal, Liberal-Left or Post-Liberal?

It is quite difficult to say that qualifications such as 'left liberal', 'liberal left' or even 'civil society advocate' correspond to specific stances which have serious differences in-between. In the political culture of Turkey, the qualification 'liberal' has been frequently used for slandering by both the left and right, particularly by nationalist and/or Kemalist circles.² Given this, the portrayal 'liberal left' or 'left liberal,' for instance, is an attribution made by others rather than being a qualification preferred by some sections.³ For example, those who adopt an understanding of socialism that places emphasis on individual rights and freedoms rather prefer to define their stances with such qualifications as "libertarian socialism," "libertarian left" and "democratic socialism." Such figures like Murat Belge, Ahmet İnsel, Fuat Keyman, Baskın Oran and Roni Margulies (described within the "liberal left"), mostly refute this qualification.⁴ For instance, in a newspaper article written as a reply to Sungur Savran, Fuat Keyman accepts the relationship between his frame of thinking and political liberalism, but underlines that understanding and changing Turkey is not possible through a liberal-left stance which symbolizes an articulation of free market (liberal) and social justice (left).⁵ According to Keyman "we need politically liberal principles as much as we need the ghosts of Marx, and these two political theories and discourses can be matched."⁶ This position signifies the desire to build a bridge between "equality" which has its dominant place in socialist political thinking and "freedom" which classical liberalism emphasizes at the level of individuals. The difficulty inherent in the labeling of this position with such categories as "left liberal" can be reconsidered just in the context of practical troubles and dead ends of this association. The demands for equality and freedom unsupported by strong social movements for a long period of time after 1980 have therefore been addressed *on paper* by intellectual figures who were disconnected from political activism.

2 For a comprehensive work on this issue see: Tanıl Bora, "Sol, Liberalizm ve Sinizm," *Birikim*, No:234, November 2008.

3 See for instance: Ümit Kurt, "AKP ve Sol-Liberal Entelektüeller," *Radikal*, 15.02.2008; Sungur Savran, "Marksizmle Tartışma Çağrısı," *Radikal 2*, May 11, 2008; Sungur Savran, "Baskın Oran, Roni Margulies ve Mahmut Mutman'a Yanıt," *Radikal 2*, June 15, 2008.

4 For a discussion on "left-liberal" in Turkey, See: Sungur Savran, "Marksizmle Tartışma Çağrısı," *Radikal 2*, May 11, 2008; Sungur Savran, "Baskın Oran, Roni Margulies ve Mahmut Mutman'a Yanıt," *Radikal 2*, June 15, 2008.

5 Fuat Keyman, "Marx'ın Hayaletleri ve Türkiye," *Radikal 2*, May 25, 2008.

6 Ibid.

The qualification “left-liberal” (or “liberal left”) describes those who are related to Marxism in some way and insist on defending certain socialist principles albeit with some reservations whether they themselves adopt the term or just face it as an attribution by others. This approach based on the premise that the importance attributed by Marxism to class relations has lost its validity in our day was justified by interpretations of the writings of Poulantzas, who was thought to argue that class relations were superseded by political power relations.⁷ According to Ahmet İnsel, one of the leading representatives of this stance, transformations taking place in the 19th and 20th centuries caused the working class to lose its status as “emancipating class embodying the germs of a promising future.” Hence, class based discourses must be dropped and an understanding of a non-sexist socialism based on “libertarianism, de-centralization, internationalism, democratic planning and anti-militarism, redefining human-nature relations” must be insistently defended.⁸ According to İnsel, it is absolutely necessary to go beyond that classical left-socialist analysis that “reduces the way of imagining society merely as reduced to class struggles, neglecting individualization, regarding the society essentially as a domain of clashing economic interests and reducing human beings to positions taken in these clashes”.⁹ While not refuting class-based determinations, left-liberal intellectuals believe that class relations should be seen as at the same level with all other determinations. Contrary to class-based reductionism of classical socialism, this approach envisages the design of an economic order where the principle of freedom is not sacrificed for equality and where equality and freedom are both equally upheld. In İnsel’s words:

“In the 20th century we witnessed socialist regimes in which freedoms are withheld for the sake of equality. You can establish equality in poverty, you can introduce equality in some rights, but equality achieved at the expense of freedoms is not a lasting achievement. If you ask the citizens of the former German Democratic Republic old enough to remember the 60s whether they want to go back to those years I think nobody would really want that (2010).”

7 While discussing the relative autonomy of many specific state policies from class interests, Poulantzas’ structural Marxism did not reduce analysis to the contention between “state and society”. Nevertheless, it was Murat Belge, Ahmet İnsel and others around the journal *Birikim* who first introduced to Turkish readers their interpretation of the leading figures of structural Marxism including Louis Althusser and Nikos Poulantzas and used their theoretical framework to explain the case of Turkey. They later placed this “state-society opposition” at the centre of their political opinion building efforts. (Poulantzas’ *Fascism and Dictatorship* was translated into Turkish by Ahmet İnsel in 2004). The theme “relative autonomy of the State” was then stripped off from its more rigid class content and frequently used to discuss the State in Turkey which is said to encroach upon the domain of individual liberties while isolating itself from social demands. For a detailed analysis, see: Savran, 1987.

8 Interview with Ahmet İnsel, Neşe Düzel, *Taraf*, January 18, 2008.

9 Interview with Ahmet İnsel, Cihan Erdal, *Turnusol Haber*, January 17, 2010.

While mostly agreeing with these positions, Tanıl Bora underlines a difference between the concepts “liberal left” and “left liberal” (2008). Bora argues that socialism and liberalism both derive from the same origin and Marx’s own understanding of socialism amounts to the sublimation of liberalism (2008).¹⁰ Hence, the critique of liberalism has a foundational value for Marx’s socialism, a critique which has/should have continuity (2008). The common denominator for liberalism and socialism is of course the realm of rights and freedoms. However, the demarcation line is drawn with the socialist critique that liberalism’s promises of freedom can but remain abstract, without any chance of full materialization. According to Bora,

“Socialism is distinct from liberalism in its questioning of the dictum, ‘all are equal, but some are more equal’ and by its focus on the positive content of rights and freedoms and material-objective conditions of their realization (2008).”

Bora stresses that despite this distinction socialism still needs to learn from the challenge of liberalism. Indeed,

“The criticism offered by liberalism contains a warning against the risk of the transformation of objectivism and voluntarist intervention to human processes into a positivist attitude – we know from the history of socialism that such a risk does exist (2008).”

After pointing to kinship in-between and common denominator of socialism and liberalism, Bora argues that the following demarcation line is necessary between ‘left liberal’ and ‘liberal leftist’:

“Left liberals are those liberals who are relatively more sensitive to such issues as equality and social justice. Liberal leftists on the other hand are leftists who are passionately committed to issues related to negative rights and freedoms and whose dedication to socialism and social democracy is coextensive with this commitment (2008).”

In this conceptualization suggested by Bora, while “liberal left” corresponds to a position which has more affinity with socialism, the “left liberal” stance has some distance from it, adopting an ideological line closer to liberalism. From the perspective of my main argument in this article, it must be said once more that this classification is not of vital importance. Moreover, the debate concerning such categorizations is over-theorized and destined to remain on paper. For example, when one argues that socialism can be reinforced by political liberalism, one might be referring theoretically to Habermas, Kant, or Bobbio. However, whatever label we prefer, whether ‘left liberal’ or ‘liberal left,’ in describing a

¹⁰ For a similar evaluation see: Ömer Laçiner, “Yolun sonu/başlangıcı,” *Birikim*, No: 232/233, August 2008.

specific group of intellectuals, the main point is whether we are diligent enough to account for the circumstances that bring about the liberal or democratic opinions that are defended. In other words, the more insightful plain of analysis lies in connecting the dots between individual figures (as representatives of liberal left or left liberal intellectuals) and socio-political events (national and international) in which their opinion production is embedded. My basic contention is not to engage in an abstract discussion focusing on concepts but to expose what kinds of meanings concepts assume in relation to political and social developments taking place in Turkey after the 80s. Consequently, it is not much of an interest for me whether “liberal-democrat”, “left liberal” or “liberal leftist” is the truest theoretical label.

A fundamental point must be underlined: The liberal left or the left liberal intellectual differs considerably from the figures who are located under the category of ‘post-liberals’ in the terminology of Erdoğan and Üstüner (2002). The post-liberals in their conceptualization, for instance, Etyen Mahçupyan or Ali Bayramoğlu, stand for a different political positioning that strongly refuses to be associated with any versions of the political left concept ‘liberal democrat,’ the term ‘liberal’ mainly refers to the category of individual freedoms, while ‘democrat’ refers to an ethical approach to democracy, elimination of military tutelage, “becoming civilian” and the dominance of rule of law. The post-political intellectual (Erdoğan and Üstüner, 2002) or the Democrat (Akdeniz-Göker, 2011) firstly distinguishes himself or herself from socialism and Kemalism as understood in Turkey. The major rationale for this demarcation is the perception that both ideologies support an image of a collectivist-authoritarian society. They believe that socialism, especially as it is understood in Turkey, is an authoritarian initiative geared to social engineering. Developments taking place in Eastern Europe after 1989, collapse of the Soviet Union and serious loss of prestige suffered by socialism in this period meant to liberal and democrat intellectuals’ confirmation of their outlook to socialism and as such it contributed to the consolidation of their earlier judgments about socialism. Moreover, owing his/her credit to the systemic deficiencies of democratization in Turkey, the post-liberal intellectual or the Democrat opinion producer, keeps a clear-cut distance either with the left-leaning approaches or the circles. Turkey’s agonizing struggle with rule of law and democratization has produced a semi-abstract, semi-concrete public figure, almost like a familiar face we tend to recognize in different people. The Democrat had an impact on important public debates by keeping nationalists, conservatives, or socialists on their toes and by setting new standards for judging governments in Turkey (Akdeniz-Göker, 2011). Nevertheless, the Democrat, whatever individual figures might think, does not

have any historical task and sacred mission. Yet, as will be seen in the following sections, the left-liberal intellectuals seem to shoulder this historical task of ‘saving’ the country deliberately or involuntarily, claiming otherwise at times.

1. Historical Legacy: Saving the State¹¹

The roots of the obsession of Turkish intellectuals with ‘the political’ and more specifically with the paradigm of ‘saving the state’ can be traced back to the late-Ottoman period. Most of the Ottoman intellectuals were bureaucrats and positioned at the heart of the state. The first generation of late-Ottoman intellectuals, shouldering the burden of avoiding the disintegration of the empire, retained the reflexes of saving, defending, and protecting the state as the basic motivations behind their intellectual activities. Therefore, their radicalism was framed by their problematic relationship with ‘the state’. Mardin regards this problematic relationship with the state as an outcome of the social history of the intellectuals of the country and argues that this distinct attitude of late-Ottoman intellectuals derived from their commonly shared understanding of the “undeserved defeat of the Ottoman culture” by the Western powers (1992:165). Accordingly, as a generation witnessing the disintegration of the empire, the Ottoman intelligentsia had associated itself with ‘the state’ and was never able to put distance from the state power. The situation was reinforced by the historical conjuncture within which the subjects of the empire collaborated with the Western powers in their struggle for independence.

It is true that, the political engagement of intellectuals has been the dominant tendency in Turkey. As it is mentioned above, like the path followed during the late-Ottoman period, during the Republican era, intellectuals have regarded themselves as the vanguards of the modernization project and have been the voluntary carriers of the official and the founding ideology of the regime, that of Kemalism. They have occupied a prominent place within the Republican project as the missionaries of the transformation of the society. In this regard, their thoughts and ideas have been shaped under the dominance of the official ideology. Even the opposing ideological stances, either from the left or right of the political spectrum, have retained the imprint of Kemalism. Then, Republican intellectuals have been the heirs of the former generations in the sense that they have been the vanguards of the westernization/modernization and have undertaken a civilizing mission in accordance with the impositions defined by the ruling elite.

¹¹ This section of the paper rests on a paper presented at the *Middle East History and Theory Conference, The University of Chicago*, April 30th and May 1st, 2004, Chicago, Illinois.

In other words, undertaking a social role was the *sine qua non* of being an intellectual. However, the intellectuals having been aware of their historical mission of being the ultimate source of the societal transformation could not escape from experiencing an identity crisis. They took pains to define their own identity regarding the East/West dichotomy. The crisis experienced with regards to the East/West dichotomy has been the major preoccupation of the literary intelligentsia and the fundamental problematic of Turkish literature. Indeed, literature has been the principal terrain through which the intellectuals of the country have raised their voice. It might even be argued that, since the early days of the modernization Turkish intellectual has been associated with the literary realm.¹² Especially during the Republican period, prominent intellectuals were not only political figures but also the literary ones. This was also the case during the sixties. Sixties implied the rise of opposing ideological stances on the political scene which then found its reflection in the Turkish press and literature.¹³ Within this period, the term ‘intellectual’ has been associated with ‘the left’ to a large extent and has almost become the synonym of the latter.

Nevertheless, despite the newly emerging issues and concerns, the story of the Turkish intellectual during the sixties and seventies was far from revealing any sort of break with the mentality of the former generations of intellectuals. Like his/her predecessors, the intellectual of the era, with a few singular exceptions, was willing to undertake the mission of obsession with the state without ever questioning the boundaries drawn by the official ideology. Accordingly, ‘the political’ was the realm within which the constitutive aspects of the intellectual identity had been shaped and constructed. It might even be argued that, during the sixties and seventies, almost everyone belonging to the intellectual circles shared the belief that political commitment was the precondition and even the major inspiration of the intellectual work. Such an understanding has begun to lose its prominence during the eighties. Obviously, the political environment after the 1980 coup was decisive in this change. As it is well-known, in the aftermath of the 1980 coup, Turkey experienced an ideological renewal and political restructuring. Still, the issue cannot be simply reduced to the specific conditions of Turkey since developments throughout the world have also brought about a certain transformation within the frames of references not only of Turkey’s intellectuals but also of the intellectuals of almost all countries. ‘Post-modernism’, ‘radical democracy’, ‘globalization’ and ‘civil society’ have appeared as the most fashionable topics of either

12 Besides, literary realm has for a long time been regarded as the site of the leftist intellectuals. As Karpat points out, the country’s leading leftists were versed in Western literature and “the really significant leftist activity after 1925 was to be found in literature.” (1966:175).

13 As Landau states, during the sixties, “opening to the left” was the main characteristics of the fiction which had been dominated by the social themes (1974: 25).

the academic or the intellectual landscape. Turkish intelligentsia have utilized these themes and headings as constitutive elements in defining their ideological and political priorities and more specifically their intellectual identities. The period implied a deviation from the traditionally adopted paradigm of Turkish intellectual (that of, 'saving the state') and has also given birth to a new kind of intellectual distancing himself/herself not only from the state but also from the very realm of "the political".

2. The Early Signs of the Metamorphosis: Period After the 1980 Military Takeover

As the analysis of the eighties involves the transformation of the country on several grounds, that of economy, ideology and politics, the constitutive characteristics of the intellectuals of the period have been exposed to a significant transformation during the mentioned time. Then, the first period of the changing nature of Turkish intellectual was opened by the September 12, 1980, military coup. The coup destroyed and liquidated the leftist movements in the country and sent politically engaged intellectuals either to dungeons or to their homes. Outright bans and oppression put certain limits to the intellectual activities. The coup was to be equated with the 'state repression'. Despite the oppressive environment it brought about, the early signs of the attempts towards 'problematizing the state' by the intellectuals of the country was one significant contribution of the coup of 12 September 1980. Therefore, beginning with the early eighties the issues concerned with the heading of 'problematizing the state' appeared within the first ranks of the intellectual debates.

As indicated above, the efforts of 'problematizing the state' was an outcome of the environment created by the coup. However, there was one another major factor that facilitated such lines of thinking. It was the operating ideology during the eighties: new-right. In the eighties, Turkey underwent a process of political restructuring and ideological renewal. The period implied for a complete reorganization of the country's political structure (Yalman, 2002). In 1980, Turkey began to liberalize its financial system to integrate with global financial markets. 24th of January 1980 decisions the import substitution strategy was abandoned, and export-oriented capital accumulation model was adopted. This required the reduction of state intervention and the limitation of state power. However, the restructuring of the economy and the politics could only be legitimated through the effective functioning of a new hegemonic project. Özalizm was the solution to the problem. Under the leadership of Turgut Özal, then prime minister and president of Turkey and the leader of the Motherland Party (Anavatan Partisi), Özalizm was introduced as the new-right ideology articulating elements of liberalism, conservatism, nationalism, and social

justice into its political discourse (Erdoğan and Üstüner, 2002). The new hegemonic project, Özalizm, relied on the adoption of the rhetoric of free market and open economy and emphasized the instrumentality of market ideology. This anti-statist discourse was also responsible for the theoretical attempts of the intellectuals in ‘problematizing the state’.

The state repression of the 1980 coup and the anti-statist discourse of Özalizm did not only pave the way towards the ‘problematizing the state’ on theoretical and ideological levels, but they also brought about the atmosphere convenient for the questioning of the official ideology. That is, during the mentioned period Kemalism, the official and long-lasting ideology of Turkish Republic, suffered a severe crisis of legitimacy and began to lose its once pivotal role.

All these developments conditioned the ideas and thoughts of Turkey’s intellectuals and created the grounds for the emergence of a new intellectual profile considerably different from the previous one. In contrast to the intellectual priorities of the ideological and political landscape of the sixties and seventies, the concepts of ‘consensus’, ‘conciliation’ and ‘civil society’ emerged as the fundamental elements of the conceptual framework of this new profile. Many intellectuals occupying opposing places in the political spectrum began to share almost similar concerns about the questions of state and official ideology. The emergence of the ‘civil society’ debate on the agenda of Turkish intellectual life reflected the mentioned developments. Intellectuals committed to different and opposing ideological standpoints shared the belief that the weakness of civil society was the main factor behind the failure of democracy in Turkey and emphasized the desirability for the renewal of civil society in the country. The concept of ‘civil society’ was exhausted by almost all political groups, -liberals, conservatives, social democrats, socialists, and Islamists- as the central motifs of their ideological discourses. The debates around the ‘civil society’ and the efforts of problematizing the state and questioning of the official ideology, Kemalism, all indicated the erosion of the traditional paradigm specific to Turkish intellectual, that of ‘saving the state’. This erosion which implied a discursive shift also emphasized the early signs of a new portrait released from its former traditional reflexes.

12th September regime prepared the Turkish economy and polity to the new path of capital accumulation and paved the ways for the integration with the global financial markets. During the nineties, the liberalization of the economy gained a further momentum (Yalman, 2002). The implementation of neo-liberal policies generated social tensions due to the deterioration of income distribution. The hegemonic project of Özalizm continued to function as a mechanism relieving the tensions that were to be the outcomes of the extreme neo-liberal practices. Still, it was unable

to overcome the demands raised by the political Islam and Kurdish movement. These two referred to the attempts of questioning of the modernist secularism and social project and the search for new references of identities. Kurdish nationalism and political Islam implied the loss of the relevance of existing forms of representation, and they together appeared as a challenge against the official ideology.

All in all, ‘civil society’ was the most fashionable theme of the eighties. In the nineties, ‘civil society’ debates continued to occupy a prominent place within the intellectual circles. Despite the intellectual interest towards the theme, nineties have witnessed a paradoxical development in terms of the relationship between state and society: “while the impulse of the ‘civil society’ to engage in public life to express its grievances has grown, the insulation of the state from popular pressures has grown even further” (Cizre and Yeldan, 2002:493). The conceptualizations of civil society shared a common mistake: They all ignored the political nature of civil society and tended to regard it as an apolitical entity. Parallel to the neo-liberal understanding, ‘politics’ itself was stripped of its political content and reduced to a technical issue and, to administration. In that sense, during the nineties, “the political” appeared to be a “shrinking realm in a physical and qualitative sense” (Cizre and Yeldan, 2000:495). Intellectual of the nineties, in contrast to his/her former predecessors, preferred to utilize the concept of ‘consensus’ and based his/her understanding of “the political” upon this single concept. Consensus has been defined as the major aim and focal point of the politics. According to this understanding, an antagonistic conception of politics was not only old fashioned, but it was also illegitimate. Democratic interplay of the differences would define the content of the political realm, it was assumed and desired (Erdoğan and Üstüner, 2002:196). Relying on this understanding of “the political,” intellectuals have gathered around “post-political discourses” (Erdoğan and Üstüner, 2002) of second republicanism, civil Islamism, and post-liberalism. All these three discourses have shared a criticism of the state and the official ideology and regarded the democracy as a virtue. The “post-liberal intellectual” who has born out of these discourses has tended to maintain a distance towards any sort of antagonistic politics. S/he has offered the “peaceful coexistence of differences” without even considering the constitutive power of “the political”. In that vein, s/he insisted to retain the similar dilemmas, reflexes, motivations, and missions of the former generations of intellectuals except for an antagonistic conceptualization of “the political”.

3. Politically Engaged Figures Against Anti-Political Climate: Left-Liberals

The state repression of the 1980 coup and the anti-statist impulse of Özalizm together paved the way towards the attempts of problematizing the “state” on theoretical and ideological levels and reflection upon the theme of “democracy” as a counterpart of that critical endeavor. Within the authoritarian atmosphere of the coup the coup, the socialists, and the left in the main, displayed different reflexes. One version of the reaction that emerged within the political atmosphere of the coup purported a reconsideration and reassessment of the traditional premises of the Turkish left and emphasized the need for a rethinking over the relationship between the ideas of ‘the left’ and the ‘democracy’ (Saraçoğlu and Akdeniz, 2005). The supporters of this approach analyzed the September coup and the defeat of Turkish left in the light of problem of democratization and maintained that to act as the agents of the new conjuncture, Turkish socialists should inject the premises of freedom and liberty into their projects and analyses. Undoubtedly, the call for a rethinking over the theme of democracy and freedom denoted to an exception within the general amount of Turkish left. This exceptional voice was represented by the weekly and later bimonthly journal *Yeni Gündem* published under the intellectual leadership of socialist intellectuals such as Murat Belge and Aydın Köymen.

All in all, during the early 1980s, the circle of political figures and intellectuals gathered around the journal *Yeni Gündem*, determined to give a central place to the critique of official ideology and to problematize the democracy within the Turkish context. It would be correct to claim that it was the left-oriented intellectuals who for the first time constructed the conceptual framework and theoretical tools of the debates revolving around the topics of democracy and the state. The journal *Yeni Gündem* deserves to be analyzed since it provided some early theoretical reflections about the theme of democracy and a call for a systematic thinking practice over the critique of the regime’s ideology. The first journal which carried the debates around the issues of democracy and democratization into the agenda of Turkey’s socialist and left-leaning figures was *Birikim*, which stood as a theoretical and political source that introduced the fashionable scholars of Western Marxism, like Althusser, Poulantzas and Laclau. The history of the journal might be examined in two phases. The first phase covered the period of March 1975 and April 1980, when the junta put an end to its publication. The second phase of *Birikim* started in March 1989 and the journal is being published interruptedly since then. The journal, when it first came out, can be regarded as providing novel theoretical contributions to the mostly barren intellectual soil of the Turkish socialist left. It had a clearly defined socialist identity and the discussions presented within the journal were confined to a socialist outlook.

In contrast, *Yeni Gündem* (first issue in 1984) never claimed to be theoretical but instead emerged as a weekly magazine focusing on issues concerned with democracy and democratization. It sought to construct a leftist perspective in the analysis of the existing course of politics. Therefore, it is difficult to mention about any sort of complete overlap between *Birikim* and this journal. Despite the fact that *Yeni Gündem* was published between the years during which *Birikim* had to leave the scene, it never claimed to substitute the place left empty by the former. Still, it might be argued that *Yeni Gündem* served as a platform for socialists who were formerly associated with *Birikim*. Perhaps the foremost figure of *Birikim*, Murat Belge, was also one of the chief editorials of *Yeni Gündem*.

The most important factor preparing the ground for the emergence of a left-wing discourse on democratization and on the critique of the regime's ideology was the 1980 Coup. The coup paved the way towards a total process of political and ideological restructuring. The Turkish version of the new right ideology, which is called Özalizm (named after the former prime minister and President Turgut Özal), was one consequence of this restructuring process which then contributed to the change within the conceptual framework of the left-leaning intellectuals in Turkey. The problem of how to reconcile Turkish left with democracy and the problematic concerning the articulation of liberty/freedom to the major premises of socialism were the leading theoretical concerns of the socialist intellectuals gathered around *Yeni Gündem* journal. The chief rationale of the journal and the mission it purported to shoulder were formulated under the headings encapsulating the major theoretical ambition: freedom and democracy. Such sort of maneuver calling for a rethinking over the relationship between Turkish left and democracy could not be reduced to a temporary strategical move. It rather envisaged a much more comprehensive change. *Yeni Gündem* circle hold that any attempt suggesting a rethinking of Turkish left under the problematic of freedom would bring about a transformation within the established political culture and categorically acknowledged practices and commonly adopted language of Turkish left. It has been contended that the failure of Turkish left in maintaining the support of the masses and its inability to act as a major agent within the realm of Turkish politics was not simply an outcome of the anti-democratic practices of the state instrument that limited the activities of the left to a considerable extent. According to the journal, Turkish left was not capable of incorporating the principles of democracy and rights and freedoms to its lexicon. It was an urgent and considerably vital task to locate the problematic of democracy into the first rank of the intellectual agenda to create a leftist culture that adopted the virtues of rights and freedoms and to transform the existing oppressive political atmosphere. The socialist movement of the country destined to a process

of marginalization could embrace the masses and retain a prominent role in Turkish politics only if it rescued itself from its hierarchical autocracy and conservative orthodoxy (Belge, 1985).

The conceptions of democracy and freedom/liberty offered by the figures gathered around *Yeni Gündem* were constructed upon two interrelated tenets. The former one echoed the classical liberal postulation that state intervention would undermine individual initiative and offend against basic liberty.¹⁴ It argued that the realization of freedom necessitated a realm fully independent and autonomous from the state. The latter stood as a central argument claiming that the realm which was defined as independent and autonomous from the state should be set aside for the components of civil society. To put it more clearly, the question of democracy and freedom were constructed upon the tenets which contended that state power should be confined to a certain extent allowing free space for individual initiative and freedom.

The theoretical attempt of *Yeni Gündem* signaled a fresh voice within the choir of Turkish left. Until the 1980s, the general trend was to analyze Turkish capitalism through the lenses of the conceptual tools of capital/labor and imperialism/patriotism. In contrast, the fresh voice symbolized by the *Yeni Gündem* circle preferred to construct their analysis upon the axes of the relations of the state/society and state/individual. Doubtless, such lines of reading determined the nature and character of the political project and strategy that they proposed. For instance, before the 1980 coup, Turkish socialist left, in the main, tended to define its political adversary as ‘bourgeoisie’, ‘imperialism’ and/or ‘USA.’ Yet, for the *Yeni Gündem*, the counter-front was constituted by the state and by the forces operating in favor of its anti-democratic preferences and maneuvers. In accordance with that ideological and political perspective, it was emphasized that, Turkish left-leaning and socialist intellectuals should raise their voices even to the oppressive practices and violence of the state that did not directly target the leftists and/or socialists. As Belge clearly proposed, without considering the questions of ‘for whom’ and ‘for what,’ the enlargement and improvement of the democratic rights and freedoms was a *sine qua non* of the struggle of building the material bases of socialism (Belge, 1985: 1).¹⁵

Through the publication of *Yeni Gündem*, the notion of civil society could disseminate within the ideological and cultural atmosphere of Turkish left. Such theoretical and ideological move was inspired from the

14 The conception of liberty constitutes the heart of liberal thought. In its classical formulation, liberty implies being free from something and therefore it retains a negative content. In that sense, the freedom of the individual implies the situation of being neither under coercion or restraint.

15 For similar emphasis, see also, Belge, “Muhafif Bir Dergi,” *Yeni Gündem*; Aydın Köymen, “Radikal Solun Gerekliliği,” *Yeni Gündem*, September 15, 1985, No:29, 7-8.

theoretical model whose parameters were set by İdris Küçükömer. The ideological enterprise of *Yeni Gündem* was an extension of the specific understanding of politics bearing the mark of Küçükömer's original and influential analysis.¹⁶ This specific understanding was rested upon a basis that called for the reversal of the traditionally accepted definitions of the categories of political left and political right within the country. It maintained that it was a mistake to regard the pro-Westernization elite, secular and bureaucratic intelligentsia within the category of left and the social forces resting upon ages-long Islamic tradition within the category of right but the reverse. Küçükömer's analysis was a political response to RPP's "left-of-center" rhetoric. The main argument of his book asserted the following: the socialist movement in Turkey must oppose the RPP-Turkish Armed Forces-Kemalism trinity to develop and establish a mass support base. With this opposition, according to the argument, the socialist left would become a viable political alternative. Küçükömer proposed a brand-new definition for the categories of "political left" and "political right" and proposed the concept of "cultural alienation" as the major criterion for understanding those categories. For Küçükömer, the political tradition represented and adopted by the Westernizing-secular-bureaucratic elite would be located towards the right of the political spectrum, since the figures within this tradition were deemed as "culturally alienated" from the people, that is, they were far from representing people's interests.

The progenitor of the political tradition now calling itself "left-of-center" was the group that emerged as a "modernizing bureaucracy" throughout the Ottoman Modernization process. These elites, proponents of modernization and Westernization, were culturally alienated from the society. Küçükömer observed that the historical, social, and political problems haunting the Republic were all caused by this "modernizing tradi-

16 The early formulation of this idiosyncratic analysis of Prof. Küçükömer made a remarkable entry into the Turkish intellectual realm with the publication of his influential book *Düzenin Yabancılaşması* (The Alienation of the Status Quo, AS for short) in 1969. Although he was a Professor of Economics, Küçükömer became well-known in the late-1960s when he published several political articles in the *Yön (Direction)* journal. Still he achieved substantial fame with the articles he regularly wrote in *Ant* the semi-official weekly journal of Turkish Worker's Party (TWP) during the late 1960s, which were the early seeds of his *opus magnum*, AS. The book sparked fierce debates among Turkish left-leaning academics and political circles and served to challenge the major parameters of the Turkish left. One particular source of inspiration behind Küçükömer's work was the newly formulated rhetoric of the Republican People's Party (RPP) about being "left-of-centre." The new ideological inclination was designed by two leading figures of RPP, Bülent Ecevit and Turhan Feyzioğlu, seemingly as a response to the opposition of WPT from a socialist basis. Indeed, it was İsmet İnönü, former president of Turkish Republic and leader of the RPP, who for the first time pronounced the maxim "left of center" in a speech on 28 July (Zürcher, 1998: 265). In the hands of the two leading ideologues of the Party, the maxim was utilized in order to promote a rather milder alternative for the working classes. To this end, the left-of-center strategy called for an agrarian reform, opening of credit lines for small producers and the improvement of the social and economic situation of the workers in order to compete with its main rival, TWP, in the struggle for left-leaning voters (Lipovsky, 1992: 42).

tion.” By arguing this, Küçükömer, in a way, repeated the criticisms of the religious-conservative right against modernization; however, he tried to integrate his approach into a form of Marxian historical and structural criticism. In that respect, he analyzed the historical role of the Western/modernizer bureaucrats using a Marxist framework and argued that the Westernizing/laicist tradition was an impediment to the development of means of production in the overall course of Ottoman/Turkish history. The aim of their modernizing efforts was to ‘save the state.’ However, according to Küçükömer, the outcome this effort was to modernize/Westernize most of the superstructural forms in the country while failing to create a similar developmental effect on the means and forces of production (i.e., the “infrastructure”). This failure created a vast chasm between the modernizing elite and the masses. Since the true advancement of capitalism in Turkey would jeopardize the power positions of the bureaucratic elite, according to the Küçükömer, they effectively hindered the historical development of the means of production. Furthermore, Küçükömer claimed that the adoption of Western superstructural institutions made imperialism easier to penetrate Turkish society. It was for this reason that the populist-Islamist circles felt more at home in supporting political groups that were perceived as embracing and protecting authentic Ottoman values. Since it was “cultural politics” which distanced the people from the bureaucratic elite, most political conflicts in Turkey were determined by “superstructural, ideological” institutions rather than by class struggle. As an outcome of this effect, the society, since the beginning of the Ottoman modernization process, was pushed towards political alliances which were against its interests.

Küçükömer utilized the concept of civil society more frequently in his writings during the 1980s. Especially in his *Yeni Gündem* articles there were many references to the concept. The crux of the argument concerning the utilization of the concept of civil society was the following: In the Ottoman-Turkish history, where the state tradition was deeply rooted and all-embracing, civil society was not autonomous compared to its Western counterparts. Nevertheless, to strengthen the democratic tradition in Turkey, civil society had to be empowered and gain its full autonomy from the state.

This analysis centered on the explanatory concept of civil society was inspired by what Marx called “Asiatic Mode of Production” (AMP) in his explanation of the uniqueness of Oriental societies. According to Küçükömer’s adaptation of Marx’s half-developed conception, the AMP could explain the Ottoman social structure where there was no private property and landownership was concentrated in the hands of the state. For Küçükömer, the Ottoman regime was a different form of feudalism than its Western counterparts, where the state owned all land, and the military

and religious elite managed the land in the name of the state. Therefore, according to Küçükömer, there was no feudal class which appropriated the social surplus independent of the state. State officials who did appropriate the surplus continued to exist in Republican Turkey under different titles but the same function. In this picture of state-society relations it was difficult to talk about advanced individuality and autonomy. Furthermore, the strengthening of civil society in Turkey was desired neither by the laicist-bureaucratic-modernizing elite nor by the capitalists. Both groups preferred to rule over a pacified society. This conceptual framework utilized by Küçükömer to explain Ottoman-Turkish society turned out to be the main reference of *Yeni Gündem* contributors. They continued to expand Küçükömer's theses and moved on to redefine the relationship between political left and democracy following his footsteps. Küçükömer's critique of the modernizing bureaucratic elite was repeated by *Yeni Gündem* and opposition to the Westernizing cultural policies of the Kemalist rank-and-file was associated with a pro-civil society and pro-democratic position. From this moment on, *Yeni Gündem*'s association, within the field of left-leaning political opinion production was denounced with the negative label "Sivil Toplumculuk" in Turkish.

Following the 1980 coup, Küçükömer's framework served as a new source of political criticism within the *Yeni Gündem* circle. His critique of modernizing-Westernizing bureaucratic elite was re-contextualized as the critique of the military junta and became a new reference for left-leaning democratic politics.

As we have underlined, the title of democracy and democratization, were paradoxically the outcomes of the post-coup authoritarian and antidemocratic implementations and practices. At that moment, İdris Küçükömer's civil society/state opposition as an analytical tool in analyzing Turkish context was adopted as the main theoretical model in understanding the socio-political dynamics of Turkey. Then, the adoption of this analytical tool which then became the chief marker of the left liberal intellectuals was bound to the specific conditions of a specific socio-historical context. Similarly, two major developments led to the adoption of another significant analytical perspective that became one of the major defining characteristics of them. It might well be argued that the *center/periphery analysis* rose to the status of a classical paradigm parallel to the two significant developments: resurgence of political Islam and the rising Kurdish activism during the post-coup period.

In the words of a social scientist, "political climate that prevailed in the 1980s and early 1990s opened up the Kemalist Pandora's box out of which have emerged multiple identities making reference to the different sects of Islam and the Kurds" (Çetinsaya, 1999: 350). Many prominent scholars

have underlined that Republican Turkey was to experience an ‘identity crisis’ which manifested itself with the Islamic revivalism and Kurdish resurgence.¹⁷ These two subjects, re-emergence of Islam during the late-1980s and the Kurdish issue, have been analyzed from different theoretical positions and political perspectives. Foremost among them were the perspectives relying extensively upon the premises of the Modernization Theory. Nevertheless, by the 1990s, the center/periphery analysis of Şerif Mardin (1973), emerged as the ‘dominant paradigm’ (Bora, 2006) that has been employed to better understand the major dynamics of Turkish society and polity.¹⁸ Center-periphery analysis of Mardin has been the source of majority of works that appeared on the academic terrain during the late-1980s and thereby much of the literature on political Islam and Kurdish problem utilized or at least referred to this unique analysis.¹⁹ In addition to its scientific value in offering a plausible perspective for understanding the operation of the state/society mechanism in Turkey, this theoretical attempt owed its popularity to the political and sociological developments within the country. As liberalism appeared to be the most favorable ideology of the late-1980s in Turkey, this specific development naturally found its reflections in the Turkish academia. All in all, the figures who most effectively utilize the center/periphery approach are the liberal-democratic and or left-liberal figures and Islamist writers (Bozdoğan and Kasaba, 1997: 4).²⁰ According to these observers who have raised substantial criticisms against Mustafa Kemal and his modernization project in the post-1980 period, Kemalist doctrine, “as a patriarchal and antidemocratic imposition from above that has negated the historical and cultural experience of the people in Turkey” (1997: 4).

Another contributing factor to the rise of the center-periphery paradigm was the popularization of criticisms of positivism in academic circles, beginning with mid-to-late 1980s. Such criticisms included the problematization of classical Marxist assumptions as being a direct extension of Enlightenment, and this critical discourse can be referenced as the main contribution of post-structuralist and post-Marxist approaches. By late 1980s, these academic discourses made their impact on social scientists in Turkey. For example, some Gramscian left-wing intellectuals were engaged in the adaptation of the post-Marxist framework suggested by

17 See for example: Ümit Cizre Sakalçoğlu, “Rethinking the connections between Turkey’s ‘Western’ Identity versus Islam, *ibid.*, 3-18.

18 For a similar account, among others see Sabri Sayari and Yılmaz R. Esmer (eds.) (2002), *Politics, Parties and Elections in Turkey*, Boulder:Lynne Rienner Publishers, p.4; Menderes Çınar, “Kültürel Yabancılaşma Tezi Üzerine,” *Toplum ve Bilim*,no:105, 2006, 153-165.

19 For some works based on this approach or drawing upon it, see: Nilüfer Göle (1998), *Mühendisler ve İdeoloji*, İstanbul: Metis Yayınları; Taha Parla (1989), *Ziya Gökalp, Kemalizm ve Türkiye’de Korporatizm*, İstanbul: İletişim; Ayşe Kadioğlu (1998), *Cumhuriyet İradesi, Demokrasi Muhakemesi*, İstanbul: Metis.

20 For Islamist critiques, see: Ali Bulaç (1995), *Din ve Modernizm*, İstanbul: İz Yayıncılık.

Ernesto Laclau and Chantal Mouffe (1985) criticizing the more “authoritarian” or “orthodox” positions within the Left, and actively utilizing the concept of “civil society” for discussions of Turkey’s democratization (and the necessity for de-militarization). The criticism of positivism as a vital element of Kemalism also corresponds to this period, being another reason for preferring to explain the dynamics of modern Turkish politics with the centre-periphery model (Açıkel, 2006: 35).

While this model became the prominent analytical tool for right-wing opinion leaders, it was also embraced by academics and intellectuals on the left and became almost the “trademark” of left leaning liberal intellectuals. These intellectuals on the left, deeply questioning their positions vis-à-vis the state, adopted the center-periphery approach especially for the criticism of the Kemalist-corporatist imagination of society and of the Jacobin top-down modernization practices (Açıkel, 2006: 35).²¹

The center-periphery approach, as it carried the themes of the strong state, modernization from above, Jacobin and positivist Kemalism to the agenda, contributed to the shaping of a certain political position. According to this posture we can call “left-liberal,” the following needed to be done to accomplish the democratization of Turkey: The authoritarian state had to be transformed, the official Kemalist ideology needed to be dismantled, civil society needed to be strengthened and the heavy hand of bureaucracy was to be removed. For such political targets, from the perspective of the left-wing liberals, the center-periphery model provided important theoretical tools.²² For the conservative-democratic observers using the model, it provided a good analytical tool to challenge the Kemalist ideology.

Politically speaking, the following observation of scholars applying the model to Turkish politics is critical: Because of the dominance of the center, it is commonly argued that “civil society” in Turkey was underdeveloped. With its emphasis on the analytical and essentialist separation between the state and society, the model implied heavy political investment in civil society initiative and organizations.

Along with the moments of “civil society” and “autonomous economic development”, the third emphasis with political implications is the analysis of the relations between politics and the military. The liberal-democratic criticism of the “relative autonomy” and “unaccountability” of the military owes a lot to the center-periphery approach. The Turkish Armed Forces, as the chief representative of the bureaucratic, dominant “center”,

21 As Açıkel notes, the works of following scholars and intellectuals might be considered in this context: Murat Belge (1992), *12 Yıl Sonra 12 Eylül*, İstanbul: Birikim Yayınları; Taha Parla (1989), *Ziya Gökalp, Kemalizm ve Türkiye’de Korporatizm*, İstanbul: İletişim Yayınları; Levent Köker (1990b), *Modernleşme, Kemalizm ve Demokrasi*, İstanbul: İletişim Yayınları.

22 For a similar remark, see Açıkel, 2006:36.

is described as an obstacle before the deepening of democracy in Turkey, because of its overt and covert interventions in parliamentary politics throughout the Republican era. When unchallenged, the liberal-democratic discourse states, these interventions (successful and attempted coups, threats, covert operations, etc.) debilitate the civil society. The 1960, 1971, 1980 and 1997 coups, through the lens of the center-periphery model, are all explained as attempts of the militaristic “center” to reassert itself upon society and consolidate its hold.

Another moment which shapes the political opinions of liberal and democratic observers through the lens of the center-periphery model concerns the “rule of law” in Turkey. Logically, if the analysis of a “strong state” constraining the development of “society” holds, this also would have negative implications for the properly democratic legal design and implementation of laws. The sphere of rights and liberties then, as criticized commonly, would remain underdeveloped as the Turkish state would rather protect its bureaucratic interests rather than reinforce “open society”.

According to the center-periphery analysis, the location of the resolution of social problems has always been the state. The state hindered the development of peripheral mechanisms for social and political maturity, as it has historically been suspicious of social groups (like the Kurds or Islamists) which had the potential to challenge its authoritarian rule. As the center was suspicious and fearful of the periphery, it used any means necessary to maintain its power, usually acting outside the boundaries of the rule of law. On this note, the proliferation of the critical literature against the “deep state,” against clandestine operations of the military and of the Ministry of the Interior can be reminded. Regarding both the “Kurdish Question” and “political Islam” the violation of rule of law for the sake of “containing” unruly elements of the periphery, was commonly problematized. Therefore, within this moment, the political call was clear: Let the social and political problems of the country be resolved through multi-party deliberation, including civil society. Remove the influence of the military on political, juridical, and economic decisions. Render the military accountable on all fields, in service of the parliament.²³

Commonly coined as “civil society advocacy,” the liberal and democratic tendencies within left-wing intellectuals remained as a political and intellectual point of interest for Marxists throughout the 1980s. Although pointing out to some theoretical explorations particularly under the heading “State,” the overall mission and vision of this debate remained limited to exposing how a deviation from genuine Marxism this civil society

23 See: Ümit Kardaş, “Uzlaşma ya da Gerilim,” *Radikal* 2, 25/06/2006; “Devletçi Seçkinler Çevreyi Hep Dışladı,” *Zaman*, 17/11/2006; “Demokraside Hükümet Askere Hesap Vermez,” *Yeni Şafak*, 11/12/2006.

paradigm was. Actually taking place as a kind of theoretical reckoning within Marxism, the eventual point reached was to underline that the adherence to the civil society paradigm was nothing more than an “inconstancy syndrome”.

Following the 90s when the translated literature increased in volume, criticisms also gained some depth. The debates were then placed under the heading “left liberalism” and the theme of “imperialism” overlooked the discussions. The liberals and democrats of the left were now described as sometimes naive and sometimes firm defenders of the regional policies of imperialism or, used synonymously with it in Marxist jargon, of globalization. The civil society paradigm was regarded as one of the system-maintaining tools of the bourgeoisie that was seeking to add a democratic, participatory and transparent “flavor” to the system in the form of civil society organizations and non-governmental organizations (Güneşli, 2001). These CSOs and NGOs were blamed by Marxists to be often funded by agents of imperialism. They were, according to Marxists, serving the creation of a political atmosphere geared to concealing class conflicts by including middle classes in politics (Güneşli, 2001). The claims of these organizations for democratization, anti-globalization or participation consisted of initiatives geared to perfecting the smoother operation of capitalism.

In the 1990s, the start of the process of EU accession added a new dimension to the issue. In the lexicon of Marxists, the term “renegade leftists” of the 1980s was replaced in this period by “EU liberals.” These groups were explicitly accused of helping the policies of imperialism and were described as major agents in the process of EU accession that forced the Turkish left to reformism and liquidation.²⁴

Sungur Savran (1986; 1992), one of the first orthodox Marxist users of the category “left liberalism” (instead of “civil society proponents” which was the buzzword of the 1980s), construed the production of liberal and democratic opinions in the left as an ideological framework emerging as a reaction to Kemalism and official ideology (1992: 12). According to Savran, this approach that addressed Kemalism from the prism of liberalism spread amongst leftists to the extent that it became a kind of unofficial ideology (1992: 13). Savran reminds that in theoretical terms the basis of this approach consists of a categorical opposition between the state and civil society. Looking at the modern history of Turkey from this perspective, the anti-democratic orientation in the country derives from the State, the military as its oppressive apparatus and Kemalism as their official ideology. This approach placing the bourgeoisie and hence ruling classes against the State, serves to conceal the class ties of bourgeoisie and

²⁴ See, for instance, Ali Doğan Güneşli, “Avrupa Birlikçi Liberalizm ve Solda Reformist Dalga,” *Gelenek*, Vol:64, June 2000.

its organic relations with the State (1992: 14). According to Savran, such a reductionism is based on an idealist ground. Just like the official ideology, left liberalism too interprets the whole historical process in Turkey as a simple reflection of a struggle waged by specific elites having no class ties:

“Here, material interests and social groups shaped up on the basis of these material interests (whether they are called “classes” or not) are merely the products of an intellectual transferring his ideas into practice, never the conditions or causes of it. For example, modern Turkey is the outcome of an intellectual passion to create a state, a nation (1992: 14).”

Savran explains the challenge of left liberalism in political domain by three tendencies: peaceful class relations, integration with imperialism and preserving the existing state by democratization (1992: 16). As an example to the search for class peace he points out to the attitude of the publication *Yeni Gündem* supporting Demirel against Özal’s ruling party backed up by the military. Integration with imperialism becomes a fact through the process of EU accession. The last point, preserving the state through democratization is addressed as a typical manifestation of reformism (1992: 16).

The main points underlined by Savran are generally shared by Marxists in their stance vis-à-vis the civil society paradigm. Differing from many other Marxist critiques, Savran’s approach does not suffice with a mere political and ideological reckoning but also seeks to address the emergence and development of left liberalism. In fact, Savran himself underlines the need for a historical materialist revelation of left liberalism with its various dimensions rather than merely taking it as an “ideology of inconstancy” (1986). The definition made by Savran indicates that he has no tendency to stick to only one dimension of the issue:

“Left liberalism is of course not only a theory. It is an ideology looking at the world from a specific framework; a current that wants to engage in politics in a specific mode by bringing specific classes and categories together; a cultural orientation having its specific references, and beyond all these, a specific psychological state. But at the roots of all these there is a theory as well, geared to understand the world in a specific way (1986: 15).”

According to Savran, first of all, left liberalism must be defined as a “current” since it does not correspond to a specific social dynamism, and instead of crystallizing in a single political movement, it may influence multiple political movements partly or totally (2006).

As a matter of fact, in his more recent articles Savran states that the approach of Marxist or socialist left in Turkey to “liberal left” is weakened in the absence of scrupulous analysis (2006). Savran suggests that the the-

oretical foundations, ideological framework and political programme of liberal left should be addressed in more detail on the basis of sound and serious arguments (2006). Savran firstly seeks to grasp the evolution and anatomy of left liberalism. According to his argument, the theoretical origins of left liberal theses can be traced back to the ATÜT debates of the 60s and the “center-periphery model” as put forward particularly by Şerif Mardin. Nevertheless, the flourishing of this line is associated more with developments that followed 1980. In other words, the rise of left liberal line in the world and in Turkey as well coincides with some material developments in a specific historical moment. The wave of crisis that fell upon the world starting from the mid-70s was followed by neo-liberal policies as solution, and mutilation of the welfare state model provided a ground conducive to the rise of left liberal approach. Further, at the end of the 80s and early 90s, the collapse of the USSR and other socialist states facilitated the acceptance of left liberal theses that placed free civil society against the authoritarian state (1986: 12-13). Coming to “domestic” factors, Savran points out to developments taking place following the 1980 military coup and Turkey’s experience with neo-liberalism introduced by Özal (1986: 15). After all, just as left wing Kemalism (or “nationalism” as it called towards the end of the 90s) that is at the opposite side, left liberalism too is the ideology of an epoch in which the struggle of oppressed classes has lost momentum (2006).

Still, it is not possible to say that left-liberal or democrat and/or liberal-democrats are addressed in Savran’s analysis by reference to concrete examples. Savran tends to explain this situation by referring to lack of any consistent and stable political attachment on the part of liberal and/or democratic (2006). The emergence of this group is explained by a process through which a large part of opinion producers becoming more sensitive to the interests of the market and capital as a result of the transformation that Turkey underwent along with neo-liberal measures. The employment of intellectuals in those sectors that blend together with cultural activities such as the media, advertising, graphic design, publishing etc. is one of the main pillars of this explanation. However, Marxist analysis reserves no space to explaining the working mechanisms of this process. While it may be sufficient to give an account of objective developments that laid the ground for the rise of the left-liberal ideology, this analysis omits the subjective motives of opinion producers defending this ideology.

The debate around civil society and democratic and liberal opinions that I have summarized above raged on in the 1980s rather as a confined debate among socialists. Again as stated before, in spite of some weaknesses, the parties to the debate could develop their arguments on a specific theoretical and ideological base. Towards the end of the 1990s, however,

debates over civil society, democracy and liberalism, despite the initial intellectual refinements supported by newly translated material, devolved into a bunch of reproachful polemics. The heavy rhetoric used in these debates was adopted and reproduced especially by those sections of the left that were never fully detached from the political-ideological influences of Kemalism. Meanwhile, since some Marxists no more regarded those opinion producers who declared their identity as ‘democrats’ as parties to any debate within the left, they opted for polemic-loaded debates rather than theoretical-philosophical discussions.²⁵ In this process, the debate over the influence of democratic and liberal opinions gained a new dimension – whether to support or stand against the process of EU accession.²⁶ Here too, the weakened debates were limited to topics like “collaboration with imperialism” and “reformism”.

The attempts of Marxists to account for liberal and democratic opinion production suffered from bad reductionism. Firstly, the primary motive was to exhibit why opinion producers taking their place at the stage with their “democrat” identities were “out of the left” or “anti-socialist.” This impeded an analytical understanding of the relationship between the social type under examination and transformations taking place in Turkey. Secondly, bad reductionism appeared to be explaining the stance of the left liberal intellectual by referring to “class based” terms which were poorly operational. And “neo-liberalism” was used as a kind of conceptual joker which absorbed all these attempts to bring rather superficial explanations.

Leaving those sections of the socialist left with Kemalist leanings aside, the quarrel between those coming to the fore as representatives of left-wing Kemalism and liberal and democratic opinion producers started in the 90s. Left-Kemalist or Kemalist columnists and academics presented their views to the public particularly with reference to debates on the Second Republic. According to their perspective, all proponent of civil society and other anti-Kemalist criticisms were nothing but supporters of the “Second Republic” or, which was the same thing, followers of Özal. Indeed, following 1991, when Mehmet Altan first used the term “Second Republic,” debates over this term occupied the political discourse. From the perspective of Kemalists, criticisms of secularist official ideology not

25 For a recent example of a comprehensive assessment running counter to analyses narrowing down the issue to the confines of betrayal or “inconstancy” see, Foti Benlisoy, “Sol liberalizm Bir Komplo mu?” *Birgün*, September 12, 2010.

26 One can refer to the following among many polemics and debates on the issue: Selim Karlı, “Sol liberalizm Gerçekle Yüzleşebilir mi?” *İşçi Mücadelesi*, November-December, 2004; (Anonymous), “Amerikan Örtüsü Olmadı AB Şapkası Verelim,” *Sol Günlük Siyasi Gazete*, No:656, March 4, 2008; Özgür Müftüoğlu, “AB’yi Kim Neden İster?” *Sol Günlük Siyasi Gazete*, 07.07.2009; (Anonymous), “Liberaller, AKP’den Tam Boy AB’cilik İstiyor,” *Sol Günlük Siyasi Gazete*, 03.03.2008; Can Semercioğlu, “Liberalizm ve Sosyalizm Sentezi,” *Sol Günlük Siyasi Gazete*, 23.09.2009.

sharing Özal's vision and all criticisms displaying sensitivity about ethnic and religious differences were all categorized as exemplary of "Second-Republicanist" ideology.

At the outset, Turgut Özal was considered by some leftist circles as the representative of the democratic fraction of the bourgeoisie. Many who thought that Özalist discourse created an opportunity in breaking the long-lasting taboos of the country were associated, by Kemalist observers, with Second Republicanism.

In the eyes of Kemalist intellectuals, Second Republicanism was a pejorative term operative in designating all individual opinion producers sharing a critical attitude towards the official ideology Kemalism, questioning the imposition of laicism and the social engineering practices of the early Republican elite and calling for a critical rethinking over the title of military tutelage. The ideological or political differences among those who emphasized either of the mentioned themes did not matter for the left Kemalist camp. Such that, whether they were raised by Islamist columnists or authors or by the socialist figures, these arguments implied a challenge to the revolutionary character of the Republic and thereby worked to strengthen the Özalist neo-liberal discourse. It was common among the left Kemalist camp to label those stances with the all-embracing notorious term "İkinci Cumhuriyetçilik" or "liboş" which appeared to be a synonym for the former. Strong criticisms of Second Republicanism came from Uğur Mumcu whose ideological stance remained very influential among the leftist audience of the concerned period of time.

By Way of Conclusion

Late-nineties and the early 2000s were heydays of liberal based ideologies in Turkey. Belief in the orthodoxy of market liberalism was to be associated with the political agenda of the EU process, promising a fully-fledged social reform agenda in the eyes of the Turkey's liberals. As of 2002, conservatives and the Islamists affiliated with the JDP claimed to share the EU based political reforms and a democratic agenda for Turkey. Left liberals were of no exception in this atmosphere. Their influence particularly in left leaning political platforms were manifest. In the socialist left, liberal leftist ideas found fertile ground to soil. Particularly, in the 2010 Constitutional Referendum the intellectuals and political figures supporting the ruling party JDP's agenda for making amendments within the Constitution of 1982, argued that the amendments proposed by the ruling party would bring about significant steps towards democratization although these would not be satisfactory for a real democratization. This group of intellectuals were very influential in morally justifying the reform agenda of the ruling party JDP. Yet, the historical roots of the liberal

leaning intelligentsia, and most particularly the left-liberals, in Turkey was not specific to the mentioned period. Left liberals, despite sharing common concerns with the other versions of liberal affiliated ideological stances, have displayed striking differences obviously with market liberals of neo-liberalism and the liberal oriented versions of conservatism in Turkey. Since this article has been confined to an analysis of the earlier roots and evolution of left-liberals in Turkey, it should be once more indicated that the recent moments that provided ammunition for development of left- or right-wing liberal agenda have not been analyzed. Left liberals, benefiting from the theoretical sources of Western Marxism argued for a discourse of democracy put their imprints on the intellectual history of Turkey as Jacobins arguing for an anti-Jacobin stance.

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CHAPTER 2

AN OVERVIEW OF CONSUMER VULNERABILITY, ITS CONSEQUENCES, AND WAYS OF COPING

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Introduction

The term “consumer vulnerability” is used in general to refer to the many difficult circumstances consumers face. The term is a very broad one and still does not have a single definition that is widely accepted by most researchers (Aimee Riedel et al., 2021; Hill & Sharma, 2020). For this reason, definitions of consumer vulnerability in the literature are given and explained under the next heading.

Two separate lines of research on the concept emerged: the first focused on comparative drawbacks across subpopulations, while the next centered on various marketing strategies that influenced consumer decision-making. During the 1960’s cultural revolution, the former frequently explored the relationship between racial prejudice and poverty. For instance, descriptions of disadvantage were found in writings on urban ghetto consumers (Andreasen, 1975, 1978) and writings about racism directed at Afro-Americans in the workplace (Sexton, 1971, 1972). These were the first years when research on consumer vulnerability began. Since then, many researchers have conducted research on the factors affecting or emerging consumer vulnerability, its consequences, and how to deal with or prevent vulnerability. Therefore, this section aims to present together the many different definitions of consumer vulnerability in the literature and then discuss the consequences of consumer vulnerability and ways to deal with it. In this way, a better understanding of the concept can be achieved, and new views or perspectives can be revealed to prevent consumer vulnerability. Also, whenever, and wherever vulnerability arises, strategies for coping with it can be built using what is discussed in this chapter.

The Definition of the Concept

As stated before, there is no agreement on the definition of consumer vulnerability in the literature (Aimee Riedel et al., 2021; Hill & Sharma, 2020). This concept is sometimes misunderstood or incorrectly equated with concepts such as demographics, consumer protection, unmet needs, or disadvantage. One of the deficiencies in the definition of the concept is to make definitions by going over who the vulnerable consumers are and accepting that the consumers who are members of some categories are vulnerable (Baker et al., 2005). However, attempting to describe consumer vulnerability in terms of those who experience it reveals the discrepancy between actual and perceived vulnerability as expressed by Smith and Cooper-Martin (1997). The definitions in the literature are presented in Table 1, and as can easily be seen, some of them are highly different.

Table 1: Attempts to Define the Concept

Author	Definition	Discipline	Main Attributes
Andreasen and Manning (1990)	Consumers who are at a disadvantage in trade relationships due to factors they can mainly not control during the transaction	Marketing	Disadvantage, exchange, characteristics, control
Lee and Soberon-Ferrer (1997)	Consumers who are not aware of unethical commercial practices and market-savvy	Marketing	Market, knowledge, awareness, unfair
Smith and Cooper-Martin (1997)	Those who are more likely to suffer financial, bodily, or mental harm because of economic dealings that make it difficult for them to optimize their utility and well-being.	Marketing	Economic, harm, well-being
Brenkert (1998)	Customers who are vulnerable to abuse from others, and suffer from one or more deficiencies (bodily, mental, motivational, or societal), and thus less able to engage in the market than ordinary customers.	Marketing	Brutalized, deficits, marketplace
Windschitl <i>et al.</i> (2002)	A sensation that one is unable to lessen the intensity of unfavorable occurrences in one's life	Psychology	Capabilities, negative outcomes
Overall (2004)	An individual who is prone to incurring harm through consuming is said to be a vulnerable consumer. A person's susceptibility to harm may be influenced by a variety of elements, including the features of the market for a particular good, the merits of the good, the circumstances surrounding the transaction, a person's characteristics or environment can have an impact on how consumers choose to consume, how they seek compensation for damages they have suffered or a mixture of these factors	Consumer issues	Vulnerability to harm, personal characteristics, or environmental factors
Baker <i>et al.</i> (2005)	A sense of helplessness known as "consumer vulnerability" results from either the intake of marketing materials or from an imbalance in the interactions that take place in the marketplace. It takes place when a person's ability to exercise control is limited, leading to a reliance on outside forces (like marketers) to provide justice in the marketplace. In a situation when consumption objectives may be hampered, the combination of internal and external factors leads to genuine vulnerability, which impacts both the individual's and the community's perceptions of the individual.	Marketing	Lack of control, outside circumstances, individual states, and traits

Commuri and Ekici (2008)	The total of the systemic class-based and transient state-based components	Marketing	Characteristics, vulnerability specific to consumption
Shultz and Holbrook (2009)	Understanding advantageous means-ends linkages and availability to advantageous means are two crucial consumer traits that are associated with vulnerability	Marketing	Knowledge, relationship
Adkins and Jae (2010)	A feeling of helplessness emerges when individual traits and shifting consumer moods mix with structural and socioenvironmental factors to create circumstances where market disparities or damage might come from buying items	Marketing	Powerlessness, characteristics, imbalance, consuming
Mason and Pavia (2014)	A situation of one's existence characterized by helplessness and an absence of control in terms of the societal, cultural, and/or financial demands of the market	Marketing	Existential, impotence, control, market
Hill and Sharma (2020)	A situation when consumers suffer harm as a result of restrictions on their capacity to acquire and manage resources, which seriously hampers their ability to operate in the market	Marketing	Harm, control, resources, marketplace

Source: Aimee Riedel et al. (2021)

Among the definitions in Table 1, those made by some researchers (e.g., Andreasen & Manning, 1990; Baker et al., 2005; Mason & Pavia, 2014) focus on consumers' lack of control over the factors involved in the buying process. These definitions emphasize that the lack of control of consumers over what goes on with the purchasing process makes them vulnerable, that is, the lack of control is the source of vulnerability. Authors such as Smith and Cooper-Martin (1997) and Brenkert (1998) built their definitions on the deficiencies of consumers and claimed that those deficiencies result in vulnerability. Some other definitions (e.g., Adkins & Jae, 2010; Overall, 2004) emphasize helplessness or vulnerability to harm as the basis of vulnerability, but the key factors that result in helplessness or vulnerability to harm vary widely in the different definitions. As can easily be seen, the definitions of consumer vulnerability do not merge on a single factor that creates the vulnerability.

Conceptual Studies on Consumer Vulnerability

Although there is not even a consensus on the definition of consumer vulnerability, surprisingly, most of the studies on the topic are empirical and only a few studies have examined the issue conceptually and are very recent. One of them is by Liyanaarachchi et al. (2021) that investigated the disparities in bank confidentiality safeguard procedures and calls for

banks to include market-oriented (MO) techniques in corporate digital responsibility (CDR) activities to reduce customer data risk. The study advises using a behavior modification framework comprised of the create and engage model to apply MO in CDR. Moreover, to control vulnerability, the authors advise creating customer subgroups based on generational groups and personalizing methods using the motive, opportunity, and ability model. According to the study, controlling customer information vulnerability necessitates a distinct strategy distinct from traditional service provision. A comprehensive approach is proposed, with vulnerable consumers positioned as major stakeholders and CDR integrated as a key component of the administrative strategy.

Another conceptual attempt by Manning and Kowalska (2021) investigated incidents of organic fraud that emerged from searches in scholarly and unpublished materials to find strategies to increase future capacities to prevent illegal actions in a globalized nutrition system. According to the study, fraud is especially susceptible to institutional trust. Those responsible for protecting the supply chain must be aware of this vulnerability and put in place strong procedures to lessen the possibility of it happening.

The last conceptual study by Helberger et al. (2022) stated that increasing levels of commercial automation, data-driven buyer-seller interactions, and the design of digital markets itself all contribute to a condition known as “digital vulnerability”. They suggested that data-driven, relational architecture defines digital vulnerability. Based on their idea of “digital vulnerability,” they showed how and why making customers susceptible with the help of technology is the height of unfair commercial behavior online.

Consequences of and Coping with Consumer Vulnerability

Many studies have investigated the factors that may be the source of consumer vulnerability. These studies have revealed the reasons why consumers are vulnerable and these reasons are very diverse (Özyörük, 2022). However, the consequences of consumer vulnerability and the studies to deal with it are very few compared to the studies on the antecedents of the issue. For instance, Wunderlich et al. (2020) investigated the vulnerability concept from the service providers’ viewpoint and focused on the vulnerability originating from difficulties in acquiring or processing resources. The authors claimed that outcomes of vulnerability may potentially affect three groups: individual consumers, companies, and society in general. The authors offered three strategies based on channel design to reduce vulnerability: (1) adaptability via different multichannel routes, (2) direction via confined channel paths, and (3) proactive interaction initiation.

A study identified two types of vulnerable customers: “Principal Vulnerable Consumers” and “Associate Vulnerable Consumers”, who were

characterized due to their closeness to the vulnerable setting. Furthermore, the authors demonstrated how companies might play a transforming role in replenishing societal, emotive, and operant resources at the micro-scale through vulnerable customers' participation in business social media (Fletcher-Brown et al., 2021), and coping with consumer vulnerability by using these resources.

By analyzing the information regulation theory as an instrument to safeguard consumers' interests, Ghapa and Ab Kadir (2021) saw the theory as a way to alleviate consumer deficits and repair consumers' information vulnerability. According to the authors, in Malaysia, the main problem encountered during the sale of the product is a lack of information that prevents customers from making competent and conscious decisions. As a result, it is vital to formalize the information that sellers, traders, and manufacturers need to give to customers to make sure that their interests are initially protected before making any sales agreements (Ghapa & Ab Kadir, 2021).

In a funeral scenario, Azzari et al. (2021) looked at the significance of service flexibility in reducing customer vulnerability. The authors gathered the data through 12 interviews with service suppliers for funerals and evaluated them together with observations and photos of funeral processions. The findings indicated that service providers may support these consumers in three ways: through service variability in coping with trauma, decreasing vulnerability via service suppliers as a member of the community, and reducing pain via considerate service.

Leino et al. (2021) examined the connection between perceived vulnerability, consumer requirements, and service inclusion. The investigation takes an exploratory approach. The information was gathered through ethnographic observations and conversations with senior residents (main consumers), family members, and staff in two nursing facilities. According to the authors, the demands of first and second-level clients are connected in four ways: they are independent, congruent, interwoven, or disparate, and individuals' vulnerability experiences vary in severity and across time, reflecting on various need characteristics. The participation of primary customers in services may raise or decrease the inclusion of secondary consumers in services and their vulnerability experience. Furthermore, the participation of secondary consumers is frequently required to nurture the inclusion and well-being of prime customers.

Cheung and McColl-Kennedy (2019) emphasized the critical role of consumer citizens in addressing social transformation, especially for vulnerable people such as refugees and asylum seekers. The authors gathered the data through 24 interviews with suppliers of services, as well as refu-

gees and asylum seekers, and an examination of campaign materials such as political press announcements, news media stories, and government policy papers. The findings show that service providers employ resistance strategies to confront dominant discourses to alleviate the suffering of refugees and asylum seekers.

Tanner and Su (2019) attempted to discover how customers' desire to use charity organizations' services is influenced by their perceived vulnerability. The results demonstrated that perceived vulnerability reduces customers' engagement with non-profit organizations (NPOs) by lowering their impression of relational advantages. Decreased engagement reduces customers' willingness to work with organizations and seek advice from them. Moreover, risk aversion and cognitive ability moderate the relationship between perceived relational benefits and perceived vulnerability. This research explains why customers who sense vulnerability are unwilling to use NPO services that may help them by demonstrating that cognitive capacity and risk aversion influence the link between perceived vulnerability and perceived relational benefits.

Echeverri and Salomonson (2019) conducted an empirical study to conceptualize vulnerability in travel services. The study defined three different kinds of vulnerability: bodily pain, commodification, and confusion. The authors recommended four main forms of strategies to cope with it: "proactive explicit articulation, proactive implicit articulation, reactive explicit articulation, and reactive implicit articulation", and linked those strategies to each form of vulnerability to present a better understanding of how to cope with vulnerability throughout customer and service worker contacts.

Milaković (2021), in her study investigating the consequences of consumer vulnerability, addressed the concept through four dimensions: "product knowledge, product promotion, purchase inability and distinguish inability". The data were gathered from 405 participants through survey forms and findings demonstrated that consumer vulnerability affects purchase satisfaction directly and purchase intention indirectly. Moreover, purchase satisfaction and customer vulnerability are correlated, although their link is moderated by consumer adaptability.

Yazdanparast and Alhenawi (2022) added to the current body of knowledge by concentrating on the impact of pandemic-induced consumer vulnerability (as represented via healthiness, societal, professional, and death-related worries) on individuals' saving, investing, and spending decisions through data gathered from USA, UK, South Africa, and Mexico. According to the findings, there are differences in how vulnerable people feel and how their financial and consumption patterns would alter as a

result of pandemics in developed and developing countries. The findings also showed that vulnerability is experienced and expressed through a variety of apprehensions and worries and that it is influenced by personality traits such as agreeableness, neuroticism, conscientiousness, need for material resources, and need for physical resources, which can increase spending on non-essential items.

Hoffmann and McNair (2019) developed a financial vulnerability measure and claimed that positive and negative financial outcomes of financial vulnerability are mediated by individual psychological characteristics. According to the authors, greater vulnerability results in saving and investing less, paying with credit card debit less than full, being short on emergency funds, and being more likely to get assistance or have past-due debt.

To safeguard the online consumer experience from negative marketing initiatives, Lo Presti and Maggiore (2021) wanted to determine if a customer's susceptibility to phony reviews affects his engagement, desire to embrace knowledge, and tendency to buy on online sites. The study, therefore, plans to use multiple regression to examine the relationship between susceptibility traits, customer engagement, information intake, and purchase intention. A survey was sent to 183 American readers of online reviews to collect the data. According to the results, vulnerability is a factor that affects consumer engagement and decisions made by consumers when reading review websites. The qualities of the review messages appear to have an impact as well, particularly on the readiness to receive the information.

Hutton (2016) investigated how low-income women were attempting to redefine their connection with the market by using more flexible channels. According to the study, resilient pathways are a few coping trajectories composed of multimodal coping mechanisms that allow efficient adaptation under economic stress. Last but not least, the study offers novel conceptualizations of resilience from the viewpoint of low-income women by emphasizing active agency, self-care routines, and relational coping.

Clearly, studies on the consequences of consumer vulnerability and ways to deal with them are few and new. All studies except one were published within the last three years. This means that there is much more to be explored regarding the concept of consumer vulnerability, particularly in terms of its consequences and ways of dealing with it.

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CHAPTER 3

FLY WHISK IN THE NEO ASSYRIAN PERIOD

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INTRODUCTION

The Neo-Assyrian Period is approximately between 1000 BC and 600 BC¹. With this period, the Assyrian State expanded its borders starting from Northern Mesopotamia to include Southern Mesopotamia, Western Iran, Syria, Levant, Çukurova, and Taurus in Anatolia (Bedford, 2009: 39; Sevin, 2014: 13). The Assyrian kings, who followed an expansionist policy in this period, became the most powerful state of the Near East (Bedford, 2009: 30).

Parallel to the growth of the Neo Assyrian Period, progress has been made in its political, social, economic, and military structures as well. Along with all these, some changes are also observed in artistic perspectives.

Fly whisks, which is the subject of the study, are a kind of fan used to repel all kinds of insects, especially flies. They were used differently from regular fans. They are usually seen in the hands of eunuchs during the Neo Assyrian Period.

Looking at the visual artworks, it is seen that fly whisks were used in Ancient Mesopotamia and Ancient Egypt since early periods. In the depictions on the victory plate of the Early Dynastic Period (2950 BC-2350 BC) found in the The Sin Temple at Khafajah, the use of the fly whisk is similar to the tree branches in the hands of the man and the woman sitting opposite each other (Figure 1). As a primitive form of the fly whisk, tree branches were used for the same function and purpose.



Fig. 1: *The banquet plate (Frankfort, 1939: plt, 105).*

In a relief found under the pavilion in Egypt, there is Amenhotep III (1350 BC-1336 BC) and his mother Mutevia (Figure 2) (William, Hayes 1959: 237). The king is seated on his throne and his mother stands just behind him. The king has a scepter in one hand and a flail, a symbol of di-

¹ For discussions about the beginning of the period, see Postagate, 1979: 193-194; Bedford, 2009: 30.

vinity, in the other. In front of him, there are eunuchs with fly whisks who protect the king from winged insects. The fly whisk has a long ornamented handle. The person is holding the handle from the bottom. The whip seems to be made of feather. It is quite large in size.



Fig.2: *The fly whisk used for Amenhetop III and his mother (William, Hayes 1959: 237).*



Fig. 3: *The fly whisk in the hands of Ramses III and Prince Amenherkhepeshef (Wilkinson, 1983).*

In another relief that adorns the tomb wall of Amenherkhepshef in Egypt, there is the goddess Hathor, Ramses III (1186 BC-1155 BC), and the prince Amenherkhepshef behind him (Figure 3) (Wilkinson, 1983). The prince is holding a fly whisk towards the king. Since Egyptian kings attributed divinity to themselves, every item they use was special and belonged only to them.

FLY WHISK IN THE NEO ASSYRIAN PERIOD

In the Neo Assyrian Period, fly whisks can be seen on many reliefs. The functionality and purpose of these whisks have been conveyed through art. In the inner courtyard (bitanu) of the Kalhu Northwest Palace is the front hall (G) surrounded by reliefs. In this hall, Ashurnasirpal II (883 BC - 856 BC) sits on the throne in his embroidered clothes and holds a drinking bowl in his right hand (Figure 4) (Layard, 1849: pl.5; McGovern vd, 2003: fig.12.11; Parrot, 2005: fig.22). Eunuchs (chashi) in front of him and behind him protect the king from winged insects with a fly whisk. The fly whisk has a handle that the person holding it can grasp it and is decorated with a lion figure at the bottom. It scares away flies and winged insects with its whip.



Fig. 4: *Ashurnasirpal's II, eunuch holding a fly fan in front and back (Strommen-ger, 1964: no. 191).*

In another relief from the Ashurnasirpal II period in Kalhu Northwest Palace, we see the fly whisk in the meal preparation scenes inside the military camps (Figure 5) (Layard, 1849: pl. 30). While one of the eunuchs is dealing with food, another uses the fly whisk to avoid getting winged insects on it. From this scene, it is understood that the fly whisks are not used only for kings but are used in all areas where being clean considered sacred.

In the relief of Tiglath-Pileser III (745 BC - 727 BC), one of the most important reformers of the empire, in the Middle Palace in Kalhu, he is depicted sitting on the throne in the scene of acceptance in the presence of the crown prince (Figure 6) (Sevin, 2014: 82 pic.93). Sitting in the open air, the king holds a fly whisk in his left hand and a rod in his right hand. The eunuch behind him is holding an umbrella so that the king is not affected by the sun. In the scene, which is understood to be daytime due to the umbrella, the king grasps the fly whisk in his hand.



Fig. 5: *Assyrian camp, fan used in food preparation (Layard, 1849: lev.30).*

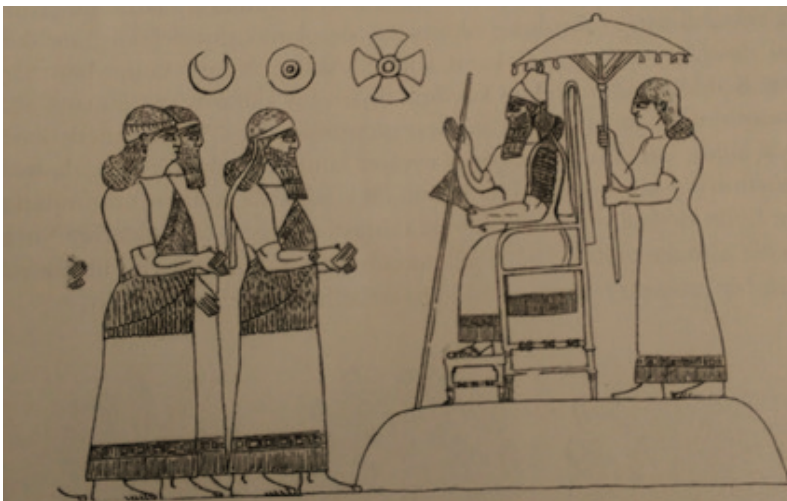


Fig. 6: *Tiglat-Pileser III holding a fly whisk in his hand (Layard, 1849: fig. 59).*

In another acceptance scene of Tiglath-Pileser III, the eunuch standing behind the king holds the fly whisk in his hand (Figure 7) (Winter, 2010: 32-50). In this scene, keeping the fly whisk for the king only should be in order to emphasize the superiority of the king over the opposite in terms of rank and authority. There are ornaments between the handle and whip of the fly whisk.

In a relief that adorns the walls of Dur-Sharrukin Palace, King Sargon II (721 BC - 705 BC) greets the ambassadors with his right hand and holds a lotus branch in his left hand (Figure 8) (Botta, 1849: pl. 29; Albenda, 1986: pl.70). The eunuch behind the king is holding a fly whisk. At the bottom of the fly whisk's handle, a lion's head is engraved. All the limbs of the lion's head are engraved in detail. This shows that the fly whisks were specially made with fine workmanship.



Fig. 7: Tiglat-Pileser III, behind the royal figure stands a servant with a fly whisk (Detroit Institute of Arts Museum, Accession Number: 50.32).



Fig. 8: Sargon II, behind the royal figure stands a servant with a fly whisk (Albenda, 1986: pl.70).

In the Kalhu Southwest Palace reliefs, King Sanherib (704 BC - 681 BC) is seated on the kingdom throne in the chariot, saluting the procession. There are two eunuchs following the king behind the car (Figure 9) (Sevin, 2014: fig. 179). While one of the eunuchs holds an umbrella, an-

other holds a fly whisk. Necessary precautions are taken for the king who is in the open air. The handle of the hand held fly whisk is engraved, its comfortable use in the hand and the length of the whip can be seen.

A post-hunting ceremony relief of Ashurbanipal (668 BC-627 BC) is engraved in the Ninive North Palace (Figure 10) (Sevin, 2014: pic. 241). The king pouring wine on the lions on the stage performs libation for the gods. There are two eunuchs right behind the king. They are holding the fly whisk in their hands over the king's head.



Fig. 9: Fly whisk held to the king in the royal procession (Barnet et al, 1998: fig. 477).



Fig. 10: Fly whisk an held to the king at the ceremony after the hunt (Madhloom, 1970:fig. 39).

In the Northern Palace of Ninive, there are two reliefs opposite each other of King Ashurbanipal, who celebrated the great victory as a result of the Til Tuba battle, with his wife in a half-reclining position (Figure 11) (Perrot, 1884: fig. 106, 107; Gadd, 1936: lev. 43; Barnet, 1970: pl. 16; Reade, 1979: fig. 13; Coşkun, 2018: 77). Just behind the king and queen, two eunuchs each hold a fly whisk. For the first time in this scene, it is seen that the fly whisk is used for a queen.



Fig. 11: King Ashurbanipal and his wife, British Museum: Image Service order FI-001034809.



Fig. 12: Fly whisk on cylinder seal impression (Porada, Buchanan, 1948: fig. 676).



Fig. 13: Fan and fly whisk on cylinder seal impression (Porada, Buchanan, 1948: fig. 776).

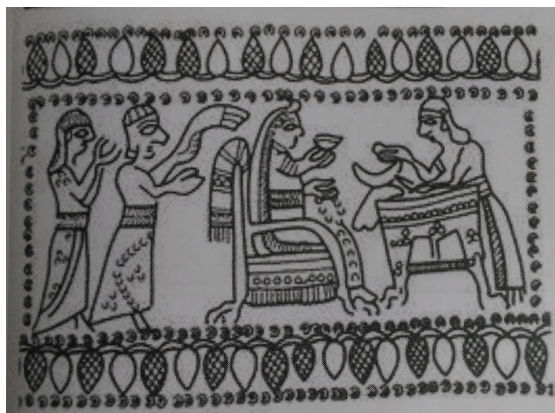


Fig. 14: *The fly whisk seen in the Urartian belt (Kellner, 1991: fig. 256).*

The use of a fly whisk can also be seen on a cylinder seal from the Neo Assyrian Period. The king is engraved seated on the throne with his goblet in his hand (Fig. 12) (Porada, Buchanan, 1948: fig. 676). Just behind the king, a eunuch holds a fly whisk. In another cylinder seal, the king is engraved in a sitting position. (Figure 13) (Porada, Buchanan, 1948: fig. 776). The eunuch right across him holds tree branches to scare away insects. Although this fly whisk is different in shape, it has the same function.



Fig. 15: *Neo-Hittite Period (Voos, 1985: abb.104).*

Many Urartian arches contain descriptions of the fly whisk (Çavuşoğlu, 2014: 73; Kellner, 1991: 69 fig.279; Seidl, 2004: abb. 102, sm9 - sm101). Usually in these depictions, fly whisks are seen in the hands of the eunuchs serving the queens sitting on the throne (Figure 14) (Kellner, 1991: fig. 256; Tanabe et al., 1982: V-B. 28).

Fly whisks can be seen on many reliefs from the Late Hittite Period. In Zincirli (Samal), King Bar-rival the king is sitting on the throne in the banquet scene, holding a glass in one hand (Figure 15) (Voos, 1985: abb.104; Gilibert, 2011: Zincirli 69). The eunuch behind him is holding a fly whisk. The eunuch grasps the fly whisk from the handle.



Fig. 16: *Zincirli stele (Orthmann, 1971: Zincirli K/2).*

On the stele unearthed from the Zincirli citadel, the queen sits on the throne (Figure 16) (Moortgat, 1932: taf. 56; Meyer, 1965: taf. 84; Orthmann, 1971: Zincirli K/2). Facing the noblewoman sitting at the banquet table, her beardless servant holds a fly whisk. The handle of the fly whisk is made without any engravings and in a way to be easily grasped. The whip is attached to the handle with three feathers.

In the Karatepe ceremonial banquet scene of the Late Hittite Period, two eunuchs in front of and behind the King Asitavata use fly whisks (Figure 17) (Çambel, 2002: 130). In the banquet scene, the eunuch in front of the king holds a fly whisk for the food and the one behind him holds a fly whisk for the king.

In the heavily damaged Late Hittite Marash stele, a fly whisk is seen in the dining scene (Figure 18) (Orthmann, 1971: b/15; Perrot & Chipiez, 1887: abb. 282; Bonatz, 2000: C44; Coşkun, 2019: 350 fig. 10). While only the foot of the person sitting on the left side of the stele can be seen, the bearded male opposite is holding a glass in his right hand while holding a fly whisk in his

left hand. Since this tomb stele may belong to a noble class, it is understood that it was used in Late Hittite art other than the king and the queen.



Fig.17: *Karatepe banquet scene* (Çambel, 2002: 130).



Fig. 18: *Maraş stele* (Bonatz, 2000: C44).

EVALUATION AND CONCLUSION

Human beings have used various materials to repel annoying insects from the environment since their existence. One of the easiest ways to repel insects is using tree branches. We can see the early use of these tree branches in Sumerian artworks (Figure 1). In the following periods, it is seen that special whisks were made to repel insects in addition to using tree branches.

It is understood that the use of fly whisks increased in the 1st millennium BC. These whisks are seen to be used for the nobility in the artworks with depictions of the Urartu and Late Hittite States, which are contemporary with the Neo Assyrian State (Figure 14, 15,17,18).

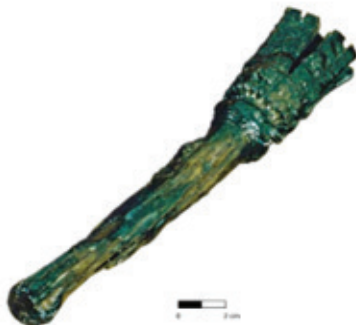


Fig. 19: *Fly whisk stalk (Hussein et al., 2016: plt 169, f.i).*

Considering that most of the fly whisks are made of wood, not many samples of them reached our day. However, a relatively well-preserved wooden fly whisk handle can be seen in a Neo Assyrian queen tomb (Figure 19) (Hussein et al., 2016: plt 169, f.i). At the top of the handle, which is 15 cm long and may have belonged to a queen, there is a space for attaching the whip. At the same time, we know from artworks with depictions that fly whisks were used for queens as well (Figure 11).

The bottom of the fly whisk can be engraved or not. The engraved ones usually have lion head or dragon head engravings. All the limbs of the lion head and the dragon head are depicted in detail (Figures 4, 8, 11). The handles without engravings are left unprocessed. We often see these types of whisks on seals (Figures 5, 6, 7, 12, 13). The size of the fly whisk varies according to the situation. Sometimes it is short in the hands of the king, sometimes it is long in the hands of the eunuch to be able to reach the king. Fly whisks were probably custom made with fine workmanship. This is important in terms of indicating that fly whisks were special objects belonging to kings or queens.

Fly whisks and regular fans differ functionally. While regular fans are depicted wider and larger, fly whisks were depicted narrow and the whip is usually made of feather hair.

In the Neo Assyrian Period, we see that the fly whisks were generally used by eunuchs for kings or queens. Eunuchs, who were allowed to be close to kings and queens, used both a normal fan and a fly whisk to cool the kings and protect them from insects. According to Assyrians, fly whisks were never used for gods or goddesses because insects only disturbed humans.

Fly whisks can also be seen in the hands of kings as well as eunuchs. Early examples of this are seen in the Early Dynastic Period and in Egypt. These fly whisks held by the rulers must have been a symbol of leadership, like the fly whisks that indigenous African chiefs hold today.

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CHAPTER 4

CRYPTOCURRENCIES AND STOCK EXCHANGE MARKET

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1. Cryptocurrency

Cryptocurrency is a kind of digital currency or virtual money that allows individuals to exchange transactions over the Internet without the use of intermediaries and exists entirely in a database's digital archives that identify particular transactions. Cryptocurrencies are worldwide phenomena that are regularly and extensively covered mostly by media and government institutions alike (Glaser et al., 2014). Blockchains are peer-to-peer networks that track and arrange cryptocurrency transactions including buying, selling, and transferring. They also operate as secure transaction ledgers and function as both money and financial accounting. Cryptocurrencies are digital or virtual currencies developed to be used as means of trade. It is remarkably similar to real-world cash, except that it has no physical existence. Numerous types of cryptocurrencies operate globally, with fast transitions and without transfer charges. The following are the top five cryptocurrencies.

1.1 Types of Cryptocurrencies

1.1.1 Bitcoin

Bitcoin is broadly considered the primary decentralized cryptocurrency that makes use of blockchain technology to conduct transactions and electronic payments. Rather than relying on a banking system to control an economy's money, Bitcoin's blockchain technology serves as a public blockchain of all payments in Bitcoin's history. Bitcoin is recognized as the first cryptocurrency, and other specific cryptocurrencies are referred to as "altcoins" (a combo word derived from "alternative coin"). So, it is tough to state which cryptocurrencies are the finest, but Bitcoin and other of the larger altcoins are the highest possibilities because of the stability, anonymity, and breadth of capabilities. The blockchain allows a user to ascertain ownership of the Bitcoin they are attempting to use and aids in the prevention of fraud and other unauthorized tampering with the cash. Peer-to-peer financial transactions (such as those among parties in various countries) can also be quicker and less costly with a decentralized cryptocurrency than traditional currency swaps using a third-party entity. Since its inception in 2009, bitcoin has had an economic impact that has been both overt and subtle. In its twelfth year of existence, a digital or virtual currency with the appearance of tokens or coins has shown itself as a genuine instrument and form of investment, and the economic effect of cryptocurrency can be observed in several different national and worldwide societies Nakamoto (2008). Since January 2020, there were over thousands of cryptocurrencies, and over 36.5 million individuals in the USA owned various types of cryptocurrencies.

While cryptocurrencies have not had a significant impact on the economy, like the financial markets, nevertheless has several hundred billion dollars come into it in 2017, establishing its reputation as a legitimate currency to invest in. Bitcoin is referred to be “digital gold” by specialists since, such as precious metals, it retains its value without deteriorating. The rise of cryptocurrency has given rise to an entire business dedicated to monitoring bitcoins exchanges all over the world. While some early investors quickly got rich, other developed enterprises depended on trade for revenue. The number of individuals working in the blockchain business grew from considerably more than 1,000 in 2016 to more than 4,000 in 2017. In Bitcoin’s present state, payment fees are minimal to non-existent for the vast majority of cryptocurrency users. Hence, cryptocurrency and blockchain are decentralized and do not require physical property speculation, users are not forced to pay for any extra expenditure. This indicates that, unlike a bank, no utility bills, rental expenses, or staff salaries must be paid.

Numerous types of research work on Bitcoin have been undertaken ever since its initial conception by Nakamoto (2008), with a focus on market competence (Nadarajah and Chu, 2017; Bariviera, 2017; Vidal-Tomás and Ibanez, 2018), price instability (Dyhrberg, 2016; Katsiampa, 2017), price cluster (Urquhart, 2017), speculation (Cheah and Fry, 2015), and financing costs (Kim, 2017). As a consequence, the development of various types of crypto-currencies in past years has led to a rapid growth in the size of the market of cryptocurrency marketplaces. A few key researchers have analyzed some cryptocurrency characteristics including market returns (Omane-Adjepong et al., 2019), trying to herd conduct in bitcoin and other cryptocurrencies (Bouri et al., 2018), asset allocation diversity all over digital currencies (Liu, 2018), government substituting modeling techniques (Kang, Mensi, and Yahyaeeb, 2018; Bouri, Gil-Alana, Gupta and Roubaud, 2019; Yermack, 2015; Blau, 2018).

1.1.2 Ethereum

Ethereum is a decentralized developed blockchain that uses blockchain and final award innovation. The Ethereum system is made up of software that runs on a system of computers to ensure that information and smart agreements (which are technically tiny computer programmed) are duplicated and executed across all machines on the network without the need for a central controller. It builds on the blockchain technologies pioneered by Bitcoin, which verifies, stores, and copies transaction records through many systems in over the world (Metcalf, 2020) Despite numerous cryptocurrencies relying on identical blockchain technology underlying ideas, their application cases differ. Bitcoin, the first cryptocurrency discovered by investors, is tailored for privacy and anti-seizure, enhancing the use of its cases as digital gold. Currently, Ethereum is the biggest blockchain op-

timized for fully programmable. Crucially, this could be one of the most fascinating blockchain applications. Ether can be higher potential growth in comparison to established asset types; diversity and little connection to other asset types; and a multi-asset allocation, there is the possibility of higher risk-adjusted returns. Ether's performances versus major indexes have been impressive over the last two years, offering a fresh source of possible rewards. These outstanding growth figures, though, come at the expense of extreme volatility, which means investors risk losing a considerable percentage of their investment if they get in just at the wrong moment. Analysts predict that the volatility of various cryptocurrencies will decrease as the sector is becoming more controlled and industrialized.

1.1.3 Tether

Tether is the original and perhaps most widely used digital currency stablecoin and keeping adequate reserves to support the supply, stablecoins simulate the worth of a fiat currency, and Tether is owned by a Hong Kong company (iFinix). In the unpredictable cryptocurrency market, this allows investors to exchange currency with greater control over their cash (Mita et al., 2019). United States Department of Treasury (USDT) is linked to the United States dollar, with intentions to link it with other fiat currencies as well. The backlash it got over reserves prompted it to explain that "cash" could potentially be substituted with "cash and equivalents." Currencies have fluctuating prices, whereas bitcoin is notable for its volatile pricing. The goal of Tether Limited is to produce a stable currency (Tether) that is linked (or tethered) to the value of the United States dollar. USDT has become a port in the storms of continually shifting cryptocurrencies values by tying to a fiat currency.

1.1.4 Binance Coin (BNB)

Binance Coin (BNB) is indeed a type of cryptocurrency that may be used to operate upon that Binance cryptocurrency payments and pay fees. Since January 2018, the Binance exchange was the world's biggest cryptocurrency exchange, processing over 1.4 million trades every second. Further than Binance, together into the globe of nearly 1 billion consumers, innovation never sleeps. MetaFi is another important component of this, contributing to a future whereby connectivity simplifies life. The objective of BNB Chain is to develop the infrastructure that will fuel the world's parallel virtual environment, and BNB Chain's dedication to the public is unwavering. BNB (originally known as Binance Coin) is an acronym that stands for "Build and Build." BNB serves as a government token in addition to "fueling" transactions on the BNB Chain. Owning BNB grants individuals, the ability to speak out and is essential to take part in the decentralized on-chain governance of the BNB Chain. With the same name

change will come additional developments for the BNB Chain community's users, initiatives, and developers. The BNB Chain group has achieved even more technological advancements for progressing decentralization over the last few years (Grossman and Petrov, 2017).

1.1.5 USD Coin

USD Coin, also known by its virtual currency ticker code USDC, is a stablecoin developed by Centre, a non-profit organization supported by cryptocurrency exchanges Coinbase and Fintech firm Circle. USD Coin has a standard value of \$1 single coin, and each USD Coin is backed by a US dollar in a separate bank account. As a result, USD Coin is a popular choice for owning cryptocurrencies without the instability and price risk associated with big coins like Bitcoin and Ethereum. USD Coin is a stable coin that, similar to Tether, is connected to the United States dollar. USD Coin, like Tether, is upon the Ethereum platform. The aim of the USD Coin would have been to develop “fully digital” dollars that possessed the solidity of US fiat currency yet did not require a bank account or the owner to reside in a particular country. USD Coin is a virtual currency that is tied to the US dollar. USD Coin is controlled by the Centre consortium, which was created by Circle and comprises representatives from the crypto trading Coinbase and Bitmain, a Circle investor. Instead of being an investor, USD Coin is intended as daily money that may be implemented with online retailers. It has low price volatility and can be implemented as a hedge against inflation (Shakhnov et al., 2018).

2. Stock Exchange Market

A stock exchange is a platform for the selling and buying of securities including stocks and bonds. Bonds are normally traded over Over-The-Counter (OTC); however, some bondholders can be exchanged on stock exchanges and by using real-time price evidence, stock exchanges enable companies to gain funds and investors to make well-informed decisions. Transactions can be either physical or digital trading platforms. Whereas most people identify trading floors with physical trading, many exchanges today employ electronic trading. Stock exchanges serve as economic agents by enabling trading and sharing information. The purpose of the stock exchange market is such as; raise capital, businesses can produce funds to support operations and growth initiatives through Initial Public Offerings (IPOs) or the issuing of new shares which creates challenges for businesses to develop. Corporate governance, corporations that are publicly traded on a stock market must track reporting instructions established by regulatory activities. This involves having to distribute their financial accounts and profits to their stockholders on a regular and public basis. The acts of a company's business are continually inspected by the public

and have a direct impact on the company's worth. Public reporting helps to guarantee a significant impact on the demand decisions that promote the industry's and its stockholders' goals, therefore operating effectively. In addition to increasing managerial efficiency, also assist economic efficiency via allocating capital and individuals may use stock markets to put their money into rather than simply save it. This implies that capital that would have otherwise gone unused is put to good use, leading to a more effective economy. Moreover, exchanges keep liquidity because it is very straightforward to sell assets. The stock exchange raises an efficient economy by enabling traders to actively determine the worth of companies through both supply and demand by making loans and real-time pricing reports on shares in the company. There are top stock exchange markets that operate genuinely all over the world.

2.1 The New York Stock Exchange (NYSE)

NYSE is the biggest securities exchange in the world, hosting 82 percent of the S&P500 as well as 70 percent of the world's top markets. It is a publicly recorded corporation that gives a framework for the daily trades of over 9 million business stocks and securities. NYSE was established in 1792 at 68, Wall Street, whereby 24 merchants and traders specified the regulations for dealing stocks in the Buttonwood Agreement. The group was originally recognized as the New York Stock Exchange Board. In 1864, it was retitled the New York Stock Exchange and during that time, the NYSE was solely open to male dealers. Muriel Siebert, a female trader, was only authorized to join in dealing in 1967. The NYSE had become a non-profit organization in 1971 and a publicly listed business in 2006. It was also at this time that dealers and the general public began to use an automatic system to trade equities (Alan et al., 2018). NYSE merged with Euronext in 2007, and the American Stock Exchange was bought by NYSE in 2008. The NYSE was ultimately bought by the Intercontinental Exchange for \$8.2 billion and the NYSE employs a continuous auction structure for all deals. Brokers trade stocks by bidding on assets for the best price. Despite its reputation as a trading desk, most securities trades are now conducted digitally, with computers connecting buyers and sellers. Even though most trades are now conducted via online platforms, the NYSE remains a heterogeneous market that enables stockbrokers to transmit orders via the digital platform or to the stock trade, whereby instructions are fulfilled by floor brokers.

2.2 NASDAQ

The National Association of Securities Dealers Automated Quotation (NASDAQ) stock market was the first electronic marketplace, established in 1971. The goal of its creation would have been to promote the OTC

(over-the-counter) financial markets, which had previously been relatively obscure and underutilized by the many stock market participants. The NASDAQ system began trading on February 8, 1971, and presented quotations for above 2500 over-the-counter equities. The NASDAQ stock market is teeming with technology stocks of emerging firms, some with high stock values and others selling for pennies. It remains the US's most popular market at a time when technologies appear to be the trend of the long term (Fernando et al., 2010).

2.3 Shanghai Stock Exchange (SSE)

The Shanghai Stock Exchange, founded in Nov 1990, is the world's fourth-largest exchange. In March 2018, it claimed a capitalization of \$5.01 trillion. The Shanghai Stock Exchange lists two categories of stocks: 'A' shares and 'B' shares. 'A' shares are traded in RMB and have typically been confined to domestic companies. The Chinese government announced fresh plans in July 2018 to allow international investors to purchase A securities via domestic brokerage firms. B shares are traded in USD and thus are available to both domestic and international investors. The Shanghai Stock Exchange market is the standard marketplace for exchanging stocks in the world in mainland China and operates as a non-profit corporation directed by the China Securities Regulatory Commission (CSRC). The exchange trades stocks, mutual funds, bonds, and derivatives (Cheng et al., 2019).

2.4 EURONEXT

Euronext is Europe's biggest stock exchange organization and also one of the world's largest stock exchange markets. In 2000, the Amsterdam, Paris, and Brussels stock markets merged to become the Euronext. It combined with various markets throughout the years, such prominently the New York Stock Exchange (NYSE), until being bought by the Intercontinental Exchange (ICE). Euronext was split off in 2014 to develop a self-governing company once more (Geerings et al., 2010). Since gaining independence, the organization has expanded its influence by combining the Irish Stock Exchange and the Italian Stock Exchange to become Euronext Dublin in 2018 and Euronext Milan in 2021.

3. The Reflection of Cryptocurrencies on Financial Instruments

Digital currencies constantly increasing in value, so investing in organizations that have both directly and indirectly invested in cryptocurrencies might be quite beneficial. Traders avoid flattened money, which is vulnerable to rising prices, and fiscal and monetary policy. Therefore, investors are seeking to follow Bitcoin and other cryptocurrencies and because of the increased demand for cryptocurrencies, stocks are having cryptocurrency exposure in high demand. If cryptocurrencies continue to

rise in value, these practices will see a surge in large purchases of their stock, as seen with Tesla Inc. (TSLA). As a result, stocks of these Crypto markets would rise if Bitcoin continues to be stable. A vast number of research studies have investigated the relationship between cryptocurrency and traditional financial markets, while a complete examination of the entire system is still absent. Most research evaluates the interaction between cryptocurrency and traditional financial markets using reduced-form models, and most researchers have concentrated on the spillovers from the financial market to the cryptocurrencies.

Recently, Anyfantaki et al. (2021), Ciner and Lucey (2022), and Karim et al. (2022) investigated the relationship between cryptocurrencies and the bond market (2022). According to Anyfantaki et al., (2021), including cryptocurrency in traditional portfolios is a useful diversified choice for risk-averse traders, particularly during times of high returns. However,

Zhang et al. (2021) demonstrated that there is a potential downside risk and negative impact among cryptocurrency and classical stock, bond, currency, and commodities market by the quantile regression method, and recommended that regulatory authorities should pay particular attention to the risk-transmitting of cryptocurrency for the stabilization of financial markets. Karim et al. (2022) discovered that bond markets are neither a hedge nor a haven, except for the Dow Jones Global Sukuk Index (SKUK), which would be a haven instrument for cryptocurrency indexes and provides significant diversity throughout times of economic instability. Given the volatility of cryptocurrencies (Gkillas & Katsiampa, 2018), it is instructive to investigate their inter and intra-volatility tendencies, as well as their interconnectedness with the uncertainty of equities and bond markets. It is also necessary to evaluate the direction of their connection in terms of volatility, as well as the influence of stock market uncertainty. Liu and Tsyvinski (2018) state that cryptocurrency is not affected by most conventional stock market variables, such as US dollar returns or gold. Corbet et al. (2018) reported that cryptocurrency is remarkably independent of the stock market, bonds, and gold returns. According to Urquhart (2016), Bitcoin is an inefficient market during the whole period of analysis, whereas it is an efficient economy over the latter sample period, showing that the crypto market is in the process of becoming more effective. Dyhrberg (2016a, 2016b) demonstrates that Bitcoin may be used as hedging versus gold and the US currency and urge that it ought to be considered in portfolios and risk assessment. Mensi et al. (2019) discover a significant statistical spillover impact in instability among Bitcoin and bonds, as well as positive spillovers from Bitcoin to other assets. According to Salisu et al. (2019), Bitcoin has predictive potential on stock market returns in the G7 economies.

Grobby and Sapkota (2019) investigated the risk transfer from the cryptocurrency sector to the forex market. Their research yielded findings that confirm the amount of uncertainty inherent in both markets after collapses and each of these markets is disposed to the same risk concerns. The study on the influence of the cryptocurrency industry on the efficiency of the Middle-east and North Africa (MENA) stock market indicated a substantial connection between the two markets. A rise in cryptocurrency market returns led to a fall in stock market returns. According to the study, both markets function as substitutes in Gulf nations while appearing to be complementary in non-Gulf nations (Sami et al., 2020). Dahham et al., (2020) address the issue of predictable price changes in cryptocurrencies and assert that significant players such as; Apple, Amazon, Facebook, Google, and Tesla have the most influence on prices. Internet search trends appear to have an effect, but in the end, a high correlation has been observed. Instead, of being viewed as a form of gambling, cryptocurrencies should be treated more seriously as a form of investing. Investing in cryptocurrency might result in profitable income under certain circumstances.

The emergence of cryptocurrency has resulted in some research on its diverse advantages and benefits over traditional resources. Kurka (2019) investigates the contagious impact across equities, goods, financials, FX trading, and Bitcoin using the cross-quantilogram approach. Mensi et al. (2019) investigated the possibility of Bitcoins, and gold acting as hedges against oil market volatility. Kristjanpoller and Bouri (2019) investigated the relationship between cryptocurrencies and traditional currencies. They discovered disparity among these currencies. They studied the contagion impact between other commodities equities and cryptocurrencies using network approaches.

4. Conclusions

In the past few years, experts, speculators, and financial sector authorities have paid close attention to cryptocurrencies as emergent virtual financial assets. Furthermore, the crypto market, as symbolized by Bitcoin, has seen tremendous progression (Yuan and Geng, 2020). The cryptocurrency sector has developed into a significant financial market that cannot be dismissed and during the same period, the cryptocurrency's current value fluctuated dramatically. Some researchers say Bitcoin is in a price bubble (Kyriazis et al., 2020), while others believe Bitcoin is a viable diversifier or safe haven tool to decrease portfolio risk (Bouri et al., 2017; Shahzad et al., 2019). Digital currencies have been integrated into the international financial system. The amount of cryptocurrency exceeds two thousand and is growing by the day. Nevertheless, neither one of them

are as well-known as Bitcoin. Raskin et al., (2018) stated that traders or dealers transfer money without the involvement of a central bank. Bitcoin's original concept has enticed investors to adopt it as a financial tool. Nonetheless, research on Bitcoin and other cryptocurrencies has raised concerns about how cryptocurrency should be classed and where it fits into the financial sector. The reflection between cryptocurrencies and financial instruments is while adjusting for cryptocurrency volatility, cryptocurrency and stock market prices are slightly connected and many of the same factors that influence stock market prices influence bitcoin prices. Therefore, investors and traders consider cryptocurrencies, in the same manner, they do equities, and prices tend to follow accordingly. However, stocks and cryptocurrency have many similarities. For beginners, they would both be volatile investments that are subject to speculation and both are often extremely liquid, which means they are extensively traded and may be bought and sold rapidly.

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CHAPTER 5

THE POWER OF FIRE AS A PURIFICATION TOOL IN ANTIQUITY

Yeşim DİLEK¹

Introduction

Many beliefs about the cult of fire have developed from primitive societies to the present. The trace and activity of fire can be seen in all beliefs and religions. Even temples symbolizing fire have been built. Fire has been considered a part of human life and the protector of history. Fire has been described as a concept that is sanctified in various religions, accepted as an element of spiritual cleansing or punishment and used for symbolic expressions. It has also been accepted as one of the elements of nature that are effective in the survival of human beings. It is known that there are many myths about how fire emerged. According to these mythological stories, fire has sometimes been seen as a god, and in some cases it has shown its effect as a symbol that reveals the power of the gods (Aslanoğlu, 2022: 257).

Fire has been seen as a sacred and purifying element in the religious ceremonies and practices of numerous beliefs all over the world. The cult of fire is evidently deeply ingrained in many cultures now as well as in ancient ones, as seen by the prevalence of fire-related folklore. In addition to representing destruction, fire produces heat, light, and flames, also represents productivity, cleansing, and enlightenment. The development of humanity's religion, intellect, socioeconomics, and social structure have all been significantly influenced by the discovery and management of fire. Some belief systems have the ability to inspire adoration and religion just by the nature of fire, which is viewed as a gift from the gods or a weapon of vengeance.

According to Simsky, fire acts nearly exactly like a living thing; it is born, it lives, it dies, it needs to be fed, and it spreads. Fire is fundamentally a human invention; it is a very uncommon phenomena in the natural world. The uses of fire are numerous and contradictory, it may both destroy and create, melt and solidify, and both preserve and kill life. The psychology of how human being interacts with fire is also unclear. (2011:1). Fire is both alluring and terrifying. It results in both joys and restrictions. It is both commonplace and enigmatic. It captures the attention of the viewer and inspires a unique, almost awe-inspiring experience. This emotion is somewhat comparable to how we feel about the Divine.

Depending on the importance of the fire, various rituals have developed around the place, time, shape and reason of the fire, and the burning and control of the sacred fire have been given to the authority of only selected people. These people have been able to receive news from the gods and spirits through fire, as well as deliver offerings, sacrifices and the souls of the dead to the gods (Güray Gülyüz, 2019: 201). Fire, which is perceived as a deterrent, punitive, cleansing and purifying element in the religious

sphere, is sometimes described as a sacred object, sometimes as an entity symbolizing the sacred, and sometimes as God himself in various traditional beliefs. Fire is also a symbol of punishment and evil, as well as a sign of greatness and sublimity. In many religions, fire is emphasized as a deterrent and a painful sensation due to its burning properties, and fire is expressed as a tool that helps to realize how superior the dimension of a divine power is (İsi, 2022: 336). It is known that fire has a very important place in some ritual practices as a means of physical and spiritual cleansing. (Maraşlıoğlu, 2018: 35). Fire at times appears as a radical method for purification.

In many religious traditions from the beginning to the present, purification tools have been an integral part of religious rituals. Throughout life, people have used some tools such as fire/light, water, sacrifice, prayer/repentance, fasting, and visiting holy places to purify/cleanse themselves. Various societies have organized rituals to cleanse themselves of material and spiritual impurities. (Aslanoğlu, 2022: 257).

In terms of concept, purification primarily denotes the elimination of debris, pollution, or contaminating material. Contextually, other ideas like sanctification and healing somewhat coincide with purifying at times. While some refining rites are self-performed, others are carried out by ritual experts. It is possible to purify not just people and things but also environments, structures, and in some cases, food and drink. Purification rites can be repeated since impurity is typically thought of as an acquired state that can be attained and exited. The only way to deal with some unusual pollutants, for which there are no authorized purifying rituals, is via removal or destruction. Anything that provokes heavenly wrath or displeasure, such as murder, incest, war, or a lack of regard for and respect for others, may call for purification. (Kazen, 2011: 1).

While maintaining ritual purity was a primary objective of cultic practices throughout history, purity was also frequently regarded as a desirable state outside of cultic involvement. This study explores the phenomenological and ceremonial dimensions of the idea of purity and purification in relation to fire. In order to comprehend and explain the widespread and typical usage of language connected to purity in diverse areas, special attention is paid to the varied usage of purity terminology as well as the use of cognitive metaphor and conceptual blending theories. As a result, the study concentrates on the purifying function of fire in ancient Near Eastern and Old Turkic cultures. This is accomplished both with an eye toward historical evolution, influence, and interaction as well as with the aid of theories regarding the effectiveness of rituals and the social consequences of fire on purity. In both the ancient and modern worlds, rituals of fire purification may be found almost wherever.

1. Fire Cult in the Ancient Near East

1.1. Mesopotamian Burning Rituals Maqlu and Šurpu

Throughout the history of mankind, since the discovery of fire, fire has been attributed many religious meanings thanks to its power to purify, destroy and transform the chemical structure of substances, apart from its earthly role in facilitating life¹. Objects burned with fire lose their material essence or are transformed and can not return to their original existence. This transformative feature of fire caused it to have a very important place in the Mesopotamian religious system and made it one of the gods of Mesopotamia. In various texts, this god is referred to by different names, such as GIBIL, NUSKU and Girra. GIBIL-NUSKU, who manifested his divine power in ‘fire’ with its purifying, destroying and transforming qualities, was used as an object in all rituals in which burning was performed and the torch was used. In the early practices to ward off evil, fire was present in almost all Mesopotamian rituals, primarily as a torch and used in the burning of incense. However, the rituals in which fire was most frequently mentioned as a central element and used exclusively, were Maqlu and Šurpu.

In Maqlu rituals, fire was most notable for its destructive effect. During this ritual, statuettes of sorcerers and evil spirits made of various materials were destroyed by burning them. In this ritual, the person who was bewitched and possessed by evil spirits would raise the torch and burn the statues of demons, spirits, ghosts, etc. and list the names of all the demons.² It is worth noting that the Šurpu ritual series, like Maqlu, made use of the purifying effect of fire by destroying. The god of fire was invoked to burn all objects that symbolized evil spirits haunting a person. In this ritual, various objects such as onions, dates, mats and wool were burned after certain procedures and prayers were offered to the fire god during the destruction³.

1.2. Sacred Fire in Zoroastrianism

Zoroastrianism emerged in Persia was the faith in which fire was intensely sacred, glorified and believed to have a purifying effect. There was a polytheistic religious life in Iran. Zoroaster (551-479 BC), as the messenger of a monotheistic religion, brought “belief in monotheism” to ancient Iran. He made the worship of the god Ahura Mazda, respect for the angels,

1 Fire and water often appeared together in Mesopotamian rituals such as Maqlu and Šurpu, where objects had to be removed and destroyed. Both their powers of cleansing and destruction were used together.

2 “ I raise the torch and burn their statues, the demon of Utukku, the spirit of Šedu, the lurking demon, the ghost, Lamaštu, disease, jealousy, Lilitu, and every evil that harms humanity. Eri, disperse and flow away! ...” (Abusch, 2015: 10).

3 “The sick person peels the onion and throws it into the fire, peels the dates and throws them into the fire, unties the wicker braid and throws it into the fire, pulls out a ball of wool and does the same, pulls out goat hair and does the same, pulls out red wool and does the same, and the sick person wipes himself with a handful of and throws it into the fire.” (Reiner, 1958: 1).

the curse of evil forces such as demons, and the race of goodness the basis of his teaching. According to Zoroastrianism, Ahura Mazda was the god of the universe. After Zoroastrianism emerged, fire-hedges were built as places where fire as the symbol of Ahura Mazda was burned. Zoroastrians insisting that they did not directly worship fire believed that fire was only a symbol of Ahura Mazda (Azizi, 2009: 30). Fire was the most important religious element in Zoroastrianism. It was the focal point of religious ceremony. It was venerated in private shrines, and in order not to pollute its flames, clerics wear gloves and cover their mouths with a handkerchief.

The dualism of good and evil is associated with the concepts of clean and unclean in Zoroastrian religious thought. This dualism was envisioned as an evil act that enabled the devil to achieve his goal in the battle between the forces of good and evil that struggle with each other in the realm of existence. This is why purification rituals emphasized in Zoroastrian doctrine were an important factor in getting rid of evil actions. The Zoroastrian doctrine traces the history of individual purification rules back to Indo-Iranian culture (Oymak, 2003: 228-229). The first distinctive feature that comes to mind in this culture is fire. Being the main figure in the temples and that fire alters in general adds to fire as central importance. (Avesta, 2017: 18). The ever-burning fire became sacred itself among Zoroastrians (Sular, 2020: 1461).

As Ayhan states that this purification tool considered the main element of worship was also seen as the greatest enemy of evil spirits (2022: 258). In Avesta, which is Zoroaster's holy book, the cleansing power of fire and respect for fire are frequently mentioned⁴. According to the texts, fire as a means of purification, destroys the beings associated with evil. In addition to the cleansing power of fire in Zoroastrian doctrine, it should be emphasized that not everything can be cleansed by fire. In this context, burning garbage in the fire is definitely not considered appropriate. Even the wood that is thrown into the fire must be perfect and dry.

In Zoroastrianism, another situation in which fire was seen as a means of purification was in the ritual performed at the time of death. A priest was called for the dying person. This person made a confession of sin before dying. A fire with incense was brought into the room and it was believed that the smell of this fire would purify or cleanse the person from demons. In addition to the fire, a dog was also brought into the room. The priest read passages from the Zoroastrian holy book to try to spiritually comfort or purify the person (Yurdaydın, Dağ, 1978: 101).

4 "...Then if a man piously throws Urvasna wood or Vohu-gaona or Vohu-kereti or Handa-naepata or any other fragrant wood, O Spitama Zarathustra! Wherever the wind carries the fragrance of the fire, the fire of Ahura Mazda will go there and kill thousands of invisible Daevas, thousands of demons, the source of darkness, thousands of Yatus and Pairikas." (Vendidad, VIII: 79-80).

1.3. Old Testament and Fire

In daily life and industry, fire consumes what should be burned or melted down, but it also creates new forms and objects and alters the qualities of materials for the better. The Bible also addresses the idea of fire as a transformative power. Israel is refined into silver by the Divine Fire (Ps. 66:10). Malachi likens God to fire, saying that it will purify the Levites by transforming them into gold and silver. (Mal. 3:2-3). When Israel endures fire and water, it becomes more resilient. (Ps. 66:12; Zech. 13:9). The use of fire as an analogy enables us to understand how the Lord is both a transforming and a destructive force. The Divine Fire purges sin while bolstering faith⁵.

Origen, one of the earliest Christian theologians, mentions that the Divine Fire tests and purifies those who devote themselves to God. This mystical fire burns the sin in the hearts of the believers. When the sin is burnt off, the soul can see the Divine Light in its wholeness and purity. Origen gives the example of the spiritual experiences of Jeremiah, for whom the Word of God had become a fire devouring his heart (Jer. 20:9). The experience of this fire brought Jeremiah to the confession of sins and repentance (cited in Simsky, 2011:6).

Simsky has drawn certain conclusions that emphasize the importance of fire in the Old Testament. 1. According to textual statistics, the Bible only occasionally refers to typical physical fire. The idea of fire acting as a servant of God piques the curiosity of biblical authors. 2. The significance of the idea of the Heavenly Fire, or the fire of God's Judgment, is also demonstrated by statistics. The Bible is largely centered on this idea. Sin is burned away by the heavenly fire, while the virtuous are spared. The purpose of sacrifice fire is the same: it purifies the one making the sacrifice by destroying the sin that has been transferred to the offering. 3. The dialectic of fire and light explains how God set fire to sin and matter by acting with his uncreated force, the Divine Light. It is possible to think of the fire in hell as the Divine Light striking a sinful soul. 4. The Fire of God expresses itself as a sin-burning experience and a call for repentance and change in the visions of fire that accompany some conversions (in both historical examples and in the modern church). 5. The traditional response to fire is analogous to how a believer should view God: fire is both alluring and terrifying. It is harmful and absolutely important for

⁵ There are many references in the Old Testament to the purifying effect of fire. Everything that may abide the fire, you shall make it go through the fire, and it shall be clean: nevertheless it shall be purified with the water of separation: and all that stays not the fire you shall make go through the water. [Numbers 31:23](#)

And I will put this third into the fire, and refine them as one refines silver, and test them as gold is tested. They will call upon my name, and I will answer them. I will say, 'They are my people'; and they will say, 'The Lord is my God.'" [Zechariah 13:9](#)

our survival. This comparison serves as the foundation for the usage of the Fire of God concept in both the Bible and contemporary preaching. We develop our relationship with God by fusing opposing forces, such as love and terror, the hope of eternal happiness and the fear of eternal damnation. (2011: 13).

1.4. Old Turkic Beliefs and Fire Relation

According to the old Turks the main source of fire was the Sun. After the Sun, lightning and thunder were also associated with fire. The burning of the dead and placing their ashes in kurgans during the Hun era and the early periods of the Gokturks demonstrates both the destructive and constructive aspects of fire in relation to the fire cult. They believe that fire could cleanse and purify from evil spirits. Although the Turks associated fire with a god or spirit, they did not directly worship it. The Turks, who worshiped Sky, Earth, and Water gods and spirits, honored fire by making offerings to it with various objects. The fire spirit is protective and helpful (Çoruhlu, 2019: 104, 110).

Turks regarding it as a sacred and cleansing power have long respected fire. It was also seen as a punisher, cleanser, healer and giver of fertility. The ancient Turks believed that everything could be purified and cleansed by fire. The fact that fire is shapeless and amorphous state caused it to be associated with the concept of “kut” rather than perceived as a substance. The same is true for water, which is perceived as formless and energetic. Each society and belief group interprets fire in its own way.

Ulgen, the god of the Turks who adopted Shamanism, which is thought to be the Turkish people’s original religion before they embraced Islam “...brought two stones from the sky, one white and one black. He crumbled grass on one of them, and when he hit it with the other, the grass caught fire...” Shaman Turks believed that fire was brought by Ulgen. In the written sources on the belief system of the ancient Turks, there were many examples of water and fire motifs. . The Western Turks had great respect for fire and believed in its cleansing power. The Kyrgyz say, “Fire is the cleanest thing. Everything that falls into the fire becomes clean”. It is strictly forbidden to extinguish fire with water, spit on fire and play with fire among the Altai. In shamanic ceremonies, sacrifices were offered to “mother fire” and the following prayers were recited: “You, Mother Fire. You fed the hungry and warmed the cold. You protected us from evil spirits in the dark nights. May the white ram with black cheeks be sacrificed to you.” (Avcıoğlu, 1995:356-357). While fire is an object of worship in Zoroastrianism, it is considered a cleansing agent among Turks. As a result, fire is leapt over every year to cleanse the world of all evil, including disease, magic, and evil spirits (Karaoğlan, 2022: 1211).

2. Incense and Purification

Humankind has resorted to the nature hoping to be shielded from demons, evil eye, sicknesses and possible disasters that they may suffer from the ancient ages of history. Incense that was commonly utilized in rituals in ancient times for these purposes, was also presented to the gods as a sacrifice. Incense was created as powder, tiny particles, or sticks in a variety of sizes and forms and is used in a broad variety of locations, including temples. Furthermore, it was paid for as a tribute and tax in the past as well as given as a gift by monarchs. Incense commerce became more common as a result of rising consumer demand. Additionally, growing demand for incense made it possible to produce incense containers made of a variety of materials and shapes (Mutlu, 2021: 215)

From the discovery of fire and the birth of the belief in gods to the present day, many cultures have burned various mixtures for different purposes and expected to benefit from the smell and smoke. Since the beginning of written history, information about human life and belief has been visualized in different ways. In addition to written documents and paintings, surviving censers, incense burners and altars also point to their widespread use. Although there is not enough data on the substances used for incense in ancient civilizations, it was believed that the smell and smoke produced by burning a sacred plant or a sacrificed animal in a vessel or throwing it on a burning fire would reach the god and make him happy and benefit him. At the same time, the acceptance of the purifying and healing power of fire must have strengthened the meaning of incense (Köroğlu, 2015: 53).

Incense was one of the most important items reflecting the concept of the sacred object, as it was included in the daily temple rituals of Mesopotamia⁶. In addition to daily practices, incense was used in many important rituals such as purification, magic, medicine, sacrifice and divination in Mesopotamia (Black-Green, 2017: 300). The practice of fumigation with incense and torches (disinfecting with smoke, fumigating) was primarily a purification ritual. As Böck points out the practice of burning incense was also frequently used in magical and medical treatments due to its connection with notions of pollution and purity in Mesopotamia. It was also a way of showing respect and veneration to the gods by emitting a fragrance, and it also had the effect of warding off demonic creatures with its purifying power. (2003:10).

⁶ When you offer the preliminaries of the temple of Nineveh, sprinkle salt on the table and say: "Assur, Itar, king of the gods, accept the preliminaries," and as you pass the purification vessel over the table, say, "The house is evacuated," then pass it over the dais and say, "The center of the house is evacuated. Go and pass the vessel past the base of the incense burner and say, "Girra when you sprinkle salt on the bread in the glass bowl, say, "Ningal accept, Kidin hear one by one." Do the same for the other gods (Menzel, 1981: 151).

In Zoroastrianism, the use of incense was mostly seen in death rituals. It is easily understood from the Avesta texts that houses in ancient Iran were generally suitable for making separate sections for the dead, and that there was a house on every street for those who did not have a suitable place. During and after the placement of the corpse in the corner of a room, the first thing to do was to show the corpse to a dog. In order for the dog to look at the corpse, three pieces of fresh bread were placed on the corpse and the dog was allowed to eat them. This practice is called *Sag-did*. After the *Sag-did*, the “Sandalwood Tree” or a fragrant incense, which was believed to cleanse the room where the deceased was, of any airborne diseases, was burned and brought into the room. At this time, one of the priests or any other person sat down and recited prayers from the Avesta. One person held the incense in the room three feet away from the dead person until the dead person went to *Dakhma* (the name given to deserted towers where dead bodies are abandoned to be fed to birds).⁷

In Hebrew society, frankincense and incense derived from various spices had a very important place in both daily life and liturgy. Archaeological data on the history of the liturgical use of frankincense in Hebrew society was quite important. In the Old Testament, there are various references to the incense offerings of the preceding polytheistic period, but incense offerings also played an important role in Solomon’s Temple. (Demir, 2021:144). For example, soot from an 8th century BC votive altar found during archaeological excavations at Tel Dan confirms that incense was burned on this altar. (Ben-Yehoshua, 2012: 32). In connection with the reference to the Golden Calves of Betel and Dan in 1 Kings 12: 25-33, it is highly probable that the soot marks on this altar were traces of offerings. On the other hand, the date of the beginning of the use of frankincense as offerings in Solomon’s Temple is not clear. It is thought that there was never an altar dedicated to incense in the Temple, and that it was probably added around the 2nd century BC. However, from the book of Jubilee, it is known that burnt offerings and incense date back to before Moses.

In Shamanism, which utilized the purifying power of fire in many different ways, the use of incense was a highly effective tool used to destroy evil spirits, evil thoughts and evil eyes. Not all plants could be used to make incense because they may not have healing power or a good spirit. For the incense ritual, especially the seeds of the hyssop, juniper and beech branches, laurel and tobacco were used. It was believed that the plants used for incense also had healing power. The essence of these plants was extracted

⁷ “If a man then piously brings burning *Urvasna* wood, *Vohu-gaona*, *Vohu-kereti*, *Hadha-naepata*, or any sweet-smelling wood... Wherever the wind carries the incense of the fire, there the fire of *Ahura Mazda* will kill thousands of invisible *Daeva*, thousands of demons, the offspring of darkness, and thousands of pairs of *Yatu* and *Pairikas*.” (VD. 8.79-80 cited in Akyar, 2018: 113).

by means of fire and applied to the person. The main thing in incense was smoke, which was helping break the negative effect of the evil eye. Therefore, the person who was exposed to the evil eye should inhale the smoke of the incense. Smoke should also be applied to the whole body. As the incense was applied to individuals, the house was also purified from the evil eye by moving it around the tent. The only thing to be aware of is that a window or door should remain open while the incense was being applied so that the bad energy could leave. It was also helpful for the Shaman to scream or make various noises while the incense was being applied. (Mercan, 2018: 152). It should be noted that the practice of burning olive leaves has roots in Shamanism. The ability of fire to drive away evil is described in shamanism. It was thought that the fire had a soul and the ability to purify space and ward off diseases and evil spirits (Çoruhlu, 2000: 49). The burning of juniper tree leaves as part of several rituals and beliefs to request the protection of a living thing was also referenced. Additionally, this was an effort to address a supernatural force. (Reyhanoğlu, 2017: 50)

Even today in some cultures incense is thought as one of the practices that are effective in purifying the evil eye that causes disease in the human body. Incense, which was used by ancient societies in rituals to purify statues of gods, temples and houses from evil and demons, continues to be used as a part of most cultures today. Today, many societies burn incense in order to purify their homes from evil, the evil eye and demons. It is believed that the incense will be passed around the house, and the house will be cleaned and purified.

As Malinowski remarks that making fire is one of the most basic and easiest primitive crafts. In addition to the craftsman's manual dexterity, it is discovered a clear scientific theory incorporated in each performance and in the tribal history of it. (1992: 26). In respect to this assertion, it is possible to assert that fire has an antiquated characteristic. Fire was a form of defense for early humans against predators and other perils. Therefore, it can be claimed that the act of fending against evil or malignancy was an ancient performance or practice.

Conclusion

The cult of fire has inspired a wide range of concepts in societies dating back to prehistoric times. All worldviews and religions contain references to fire and proof of its presence and activity. Fire has long been cherished as a vital component of human existence and a defender of the past. One account claims that the concept of fire is treasured by a variety of religious traditions, recognized as a part of spiritual purification or punishment, and utilized in symbolic expressions. It is also acknowledged as one among the elements of nature that are essential to human existence.

Different rituals have developed around the place, time, shape, and reason for its burning. In many different cultures and beliefs, fire was occasionally referred to as a sacred object, occasionally as an entity signifying the sacred, and occasionally as the god himself. Fire was thought of as a deterrent, punitive, cleaning, and purifying element in the religious domain. Fire might sometimes seem like a radical purifying technique.

Purification tools have played a significant role in religious ceremonies throughout history and in many different religious traditions. People have utilized various methods to purify and cleanse oneself throughout history, including fire, light, water, sacrifice, prayer, repentance, fasting, and visits to sacred locations. Various societies have created rituals to cleanse themselves of worldly and spiritual impurities. In terms of concept, purification primarily denotes the elimination of debris, pollution, or contaminating material. Contextually, other ideas like sanctification and healing somewhat coincide with purifying at times.

In Mesopotamian ceremonies like Maqlu and Šurpu, where things had to be removed and destroyed, fire and water frequently occurred combined. They combined their purifying and destroying abilities. When something was burned, it either loses its material essence or undergoes a transformation that prevents it from returning to its original state. Fire's ability to transform made it one of the gods of ancient Mesopotamia and gave it a prominent role in their religious system.

The religion of Zoroastrianism held fire in extremely high regard and considered it to have purifying properties. According to what is learned from the writings of Zoroastrianism, it is evident that fire purified by destroying beings that were considered to be wicked. It is important to stress that not everything could be cleansed by fire in addition to the purifying power of fire according to Zoroastrian doctrine.

The Bible discusses fire as a transformative force. Israel is made as silver by the Divine Fire. Malachi compares God to fire, which will purify the Levites by purifying them into gold and silver. Experiencing fire and water hardens Israel. The Lord is depicted as a transformative power that has the capacity to both create and destroy through the allegory of fire. Burning sin with the Divine Fire while bolstering faith.

Incense and burning various plants are two other methods of purification and cleansing by fire that have survived from antiquity to the present day. The use of good odors is more of a religious concept than a sanitary one. However, the use of incense for treatment procedures and similar purposes have a historical background. The fact of "incense culture" was revealed by the combination of various substances such as incense, aromas, burning flames, stones or burning stones, amber, and musk obtained from

burnt substances. In Zoroastrianism, the burning of fragrant wood in religious ceremonies, celebrations and in the home was an act of pleasure and worship for the Avesta Manda and a process for the destruction and expulsion of demons, evil spirits and evil elements. This tradition is still widely practiced among Zoroastrians, with the burning of wood in fire temples at certain times of the day and especially in ceremonies. In Jewish religious ceremonies, the use of fragrances and incense to cleanse the temples was very common, and there were special places for burning incense. The tradition of the use of incense varies between Jewish branches, in some it is still practiced, in others it has not survived.

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CHAPTER 6

A GROUP OF GRAY MONOCHROME CERAMICS FROM ANTANDROS*

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1 * Part of the ceramics covered in this paper are included in the master's Thesis of Melis obanođulları. In addition to the material studied in the thesis, a previously unstudied group of gray ceramics from Store No.1 have been studied more extensively in this article.

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Introduction

Antandros is located on the southern foothills of Kaz Mountains, in Altınoluk neighborhood, in the Edremit district of Balıkesir province (Picture: 1) (Yalman 1993: 449-487; Özeren et al., 1997: 161-177; Polat 2003: 21-30; Polat & Polat 2004: 453-462; Polat & Polat 2006: 89-104; Polat et al., 2007: 43-62; Polat et al., 2008: 455-476; Polat et al., 2009: 39-60; Polat et al., 2010: 1-22; Polat et al., 2011: 98-121; Polat et al., 2012: 271-294; Polat et al., 2015: 135-158; Polat et al., 2016: 345-362, Polat et al., 2018: 477-502; Polat et al., 2020: 259-276). The advantageous location of the city lies on the intersection of the roads connecting ancient regions. Thanks to its location on the skirts of Kaz Mountains, the city was important for timber production (Thuk, 4.52).

Since the beginning of the excavations, work has been carried out in many areas however the excavations at the Necropolis and the Roman Villa have continued uninterruptedly since 2001 (Picture: 2). The Necropolis Sector with 558 unearthed tombs dating from the late 8th century BC to the 1st century AD sheds light to the burial traditions and ceramic range of various periods (Polat 2002a: 154-159; Yağız 2005: 22-45; Polat & Polat 2007: 1-20; Polat 2008: 271-280; Yağız 2009: 136-144). The gray ceramic finds unearthed in the Necropolis sector and used as burial gifts, showing a higher density between the late 8th – 6th centuries BC and containing examples dated to the 5th-4th centuries BC, provide data about the tradition of gray ceramics in Antandros (Yağız 2005: 102-105; Polat & Polat 2006: 94-95; Polat et al., 2007: 52; Polat et al., 2009: 50, Polat et al., 2010: 14, Polat et al., 2011: 107, Polat et al., 2016: 355; Candar 2017: 63; Baysu 2019: kat. no. 96-116; Ürün 2020: kat. no. 8, 17, 27). After the 4th century AD, the Necropolis was occupied by Roman workshops (Açar 2017: 12-17).

Further study areas are the Yolüstü, Yolaltı and Dereboyu I-II Sectors located to the north and south sides of the Balıkesir-Çanakkale highway (Polat & Polat 2006: 99). The excavations to the north of the highway (Yolüstü) have brought to light data dated to the early 8th-7th centuries BC and a house destroyed by fire (Polat 2003: 23-24; Polat & Polat 2004: 455-456; Zunal 2005: 46-60; Polat & Polat 2006: 93; Polat et al., 2018: 201-230). Examples of polished gray ceramics discovered *in situ* on the floor of this burnt house in the Yolüstü Sector and dating to 600-500 BC provide significant information about the repertory of gray ceramics in Antandros (Polat 2003: 23-24; Polat et al., 2018: 201-230).

The Roman Villa Sector and Store No. 1

This paper deals with the gray monochrome ceramics brought to light in the Roman Villa therefore this sector has been hereby considered under a separate chapter. The uninterrupted excavations in this area since 2001,

when the first excavations in Antandros began, have brought to light a Roman villa with 25 rooms paved with mosaic floors and walls covered with frescoes (Picture: 3) (Polat et al., 2018: 477-502). It has been determined that the building was constructed in the late 3rd -early 4th century AD and remained in use in the 5th-6th centuries AD after various renovations (Polat 2003: 22).

The villa occupies an area of around 2000 m², constructed in three terraces facing the sea, with its back resting on the hillslope. The six adjoining rooms on the uppermost terrace have been numbered beginning from the west while the first room, with a mosaic floor, and the third room, with a marble floor, have been defined as a triclinium (Polat 2003: 22; Polat & Polat 2004: 453-454). The rooms open to a 32.90 m long corridor with a mosaic floor. The immediately lower terrace contains a tablinum on the west, a latrina on top of the sewage system, a bath heated with a hypocaust system and kitchen on the east and an uncovered atrium in the center. The lowermost terrace contains the stores, which share common walls with the Roman villa, where the finds subject to this paper were uncovered. These spaces, which begin on the south of the tablinum and reach the south of the baths and have sizes ranging between 3.50 x 4.50 m, were defined as stores based on similar examples and were numbered beginning from the west (Jashemski 1977: 217-218; Şeker Ilgın 2008: 88; Cirillo et al., 2015: 723-724).

The excavations inside Store No.1 have revealed numerous mosaic and fresco fragments and rubble stones. These findings discovered inside this room indicate that the tablinum situated above and adjacent to the north of Store No.1 collapsed into the store (Polat et al., 2020: 260). The floor of Store No.1 was created by levelling the bedrock on the north (Picture: 4). The holes in the central and southern parts of the floor were levelled with a filling which apparently includes a wide range of ceramic groups dated between the Middle Bronze Age and the Late Roman Period (Polat et al., 2020: 263; Çobanoğulları 2021). The present paper deals with the gray ceramics which were found in a wide range of shapes inside the filling of Store No. 1.

1st Millennium BC Gray Monochrome Ceramics

Thanks to previous research it is so far known that gray ceramics, which are observed in many centers, show concentration in settlements of Northwestern Anatolia and that in the 1st millennium they are especially predominant in the cities of the Aiolis and Troas regions (Bayne 2000: 157-200, 226-238; Polat 2008: 281). The gray ceramics of the period take various names mostly based on the findspots, such as Gray Ceramics, Lesbos, Assos, Ionian Gray Ceramics, Aiolian Bucchero and Gray Ware (Bernard

1964: 109; Villard 1960: 51-53; Lamb 1931-1932: 1; Bayne 2000: 200-217; Utili 1999: 77; Boehlau & Schefold 1942: 99).

The argument that gray ceramic was a tradition brought to Anatolia by Aiolians during the colonization movements was accepted for a long time, since these ceramics were found in abundance in Aiolian cities (Polat 2008: 281). However, it is known that gray ceramics existed in Anatolia long before the Aiolians and the examples of gray ceramics in the homeland of the Aiolians are quite limited (Lamb 1931-1932: 1-12; Spencer 1995: 269-305; Polat 2002: 206-209, 210-215; Pavuk 2002: 36; Bayne & Spencer 2007: 79-89; Polat 2008: 282-285). These data raise the possibility that gray ceramic was a local group which the Aiolians became acquainted with through settlements like Troia and Lesbos (Polat 2008: 288-290).

In the 1st millennium BC, the shapes of gray ceramics were diversified, and gray examples of shapes already known in the ancient world were produced. Based on the analysis and analogical evaluation of examples from settlements of Western and Northwestern Anatolia dated to the second half of the 8th and 7th centuries BC, it has been argued that these examples were produced in many settlements by itinerant potters (İlieva 2018: 151-156; İlieva 2020: 57; Ayaz 2021: 505).

Gray Monochrome Ceramics from Antandros

Even though the Gray Monochrome Ceramics from Store No.1 in the Roman Villa of Antandros were unearthed inside the filling, they contain examples of various shapes spreading to a wide timespan and will be considered hereby in order to contribute to the repertory of shapes of gray ceramics. The evaluation was made based on the shapes and will be presented ordered from earlier to later examples.

Krater, Dinos and Stamnos

Fragment No.1 is a rim and body fragment of an open vessel with an everted, thickened rim, concave transition from rim to body, with a sharp profile at the transition (Picture: 5.1). This vessel might be identified as a krater, if we should use the terminology of classical pottery, but it shows close similarity to Bronze Age ceramics with its details of shape and characteristics of surface. In terms of shape the turn of the rim to the exterior and the sharp transition on the body differentiate from the shapes of the Iron Age. Although it bears similarities with some 2nd millennium examples, no exact comparison has been found (Blegen et al., 1958: fig. 288, no. 32.105; Bayne 2000: fig. 14.3, 14.8; Pavuk & Horejs 2018: 476, fig. 15). Among the gray ceramics of the 1st millennium BC a vessel found in Larisa bears some similarities in general lines with its everted rim and sharp

profiled body (Boehlau & Schefold 1942: 108, abb. 34 a). The dating of the example from Larisa is not clear since it is indicated that it was unearthed in a layer containing Bronze Age ceramics. A similar example from the gray ceramics of Daskyleion, dated to the end of the 8th-early 7th century BC bears very similar body features even though it is differentiated with the shape of the lip (Polat 2002: lev. 77, I.28). Another example from Antissa, also dated to the 8th – middle of the 7th century BC can be compared to the krater rim-body fragment No.1 with its deep, vertical and carinated profile (Lamb 1931-1932: 51-53, fig. 7, 2).

Cat. No. 2 is a dinos rim and body fragment with a flat, wide rim plate and glazed exterior. The interior of the rim plate is bordered with a shallow groove (Picture: 5.2). Variations of this shape have been unearthed in many settlements where gray monochrome ceramics have been found. The example from Pyrrha is similar to Cat. No. 2 in terms of rim shape (Lamb 1931-1932: fig. 2, 2). As a difference the rim plate of the Pyrrha example is sharp-edged and the resting surface is bulbous. Unlike Cat. No. 2, the examples from Larisa, Assos, Smyrna, Kyme and Troia have a flat rim plate (Boehlau & Schefold 1942: 61, abb. 17, b; Bayne 2000: fig. 45, 4; Utili 2002: 149, abb. 6, 49; Colelli 2012: tav. 2, 14; Aslan 2018: 331, pl. 42, no.343). The example from Apollonia Pontica has a rim plate with a curved interior which is similar to Cat. No. 2 (Nikov 2012: 202, fig. 43, 10). The dinos example from Assos has a flat and cornered rim plate and thinner wall compared to the example from Antandros (Utili 1999: abb. 42, 756). Compared to the example from Daskyleion the rim of Cat. No. 2 is curved to the interior with a shallow groove on the rim plate (Polat 2002a: 6-7, levha 79, J.1). All above examples indicate that the dinos shape was strongly used in gray ceramics with many variations between the 7th and 6th centuries BC.

Cat. No. 3 is a dinos rim and body fragment with an incurved, rounded rim with two deep grooves on the exterior of the rim, a wide ovoid body and polished exterior (Picture: 6.3). Although the rim does not have the wide rim plate of the classical dinos shape, example No.3 may be named as a dinos thanks to its globular body. A piece among the gray ceramics from Larisa is similar to the Antandros example with its rim shape and grooves (Boehlau & Schefold 1942: 112-113, abb. 37c). Another example from Larisa is suitable to comparison with its general shape characteristics (Boehlau & Schefold 1942: 61, abb 17e). Both examples were dated to the Orientalizing Period with no further details. The dinos is a shape widely used in decorated pottery of the Orientalizing Period. Examples from Lesbos-Eresos (Zάχος 2012: 313, εκ 16, 11) and Assos (Ayaz 2021: 830, lev 63, La 9) have quite similar characteristics to piece No.3. With the help of similar examples, it is possible to suggest the date of the late 8th century BC for

the Antandros dinos fragment.

Cat. No. 4 is a rim and body fragment of a vessel with a projecting flat rim plate, and a widening body below the rim curve (Picture: 6.4). It is similar to the dinos shape as per its rim profile; however, it would be more suitably named as a stamnos because the diameter of the rim is narrow, and the body is not much wide. As seen above in piece No.2, examples of dinoi were uncovered in many settlements. Examples from Daskyleion and Lemnos, dated to the 7th – 6th century BC and considered under the chapter of gray monochrome dinoi have similar characteristic of shape with the stamnos from Antandros (Polat 2002: 146-147, lev. 79, J.2; Danile 2015: 446-447, fig. 3n).

Cat. No. 5 is a stamnos rim and body fragment with a short, upturned rim directly connected to the horizontal shoulder with no neck (Picture: 7.5) (Uzun 2007: 197). In Klazomenian wave-line pottery this shape is named as a Short-Necked Stamnos. The surface of this vessel has a shiny black glaze and there is a shallow groove at the transition from rim to neck and on the shoulder. Among the finds from Antandros, ceramics with shiny black glaze, contrasting the clay of the vessels, were widely used during the 6th-5th centuries BC and aimed to resemble Attic pottery. For this reason, it has been thought that examples of similar shape could occur among black-glazed pottery from the Athenian Agora, however a similar shape was only encountered among common wares. This example from Athens was dated to 450-425 BC and was named as a storage vessel (Sparkes & Talcott 1970: 344, fig.13, pl. 68, no.1541). Among Klazomenian wave-line pottery 6th century BC examples particularly resemble Cat. No. 5 (Uzun 2007: 207-209, fig. 153, K8). Gray monochrome examples of the Archaic period similar to this shape were unearthed at the excavations in Assos, Lesbos, Daskyleion and Apollonia (Utili 1999: 318, abb. 33, no.559. second half of the 7th century – first half of the 6th century BC). There is a striking resemblance to the rims of krater/pyxis examples unearthed in Assos and Lemnos and dated to 750-650 BC. The lower body of the example from Antandros is not preserved, therefore the vessel was defined based on the rim profile and dating was attempted through analogy (Lamb 1932: 6-7, fig. 2, no.1 (Troia VI); Polat 2002: 165, lev. 90.O.1; Nikov 2012: 30-31, 182, fig. 23, no. 6; Ayaz 2021: 191, şek. 1.78.M1. MÖ 575-525). Considering similar examples and the examples of gray ceramic from Antandros, stamnos No.5 should belong to the 6th century BC.

Cat. No. 6 is a fragment of a horizontal cylindrical handle with a wide, vertical strap handle descending from it and as wide as its contour. The upper surface of the fragment is polished while the lower surface is unpainted. The shape and curve of the handle show that the cylindrical horizontal part should join the rim and that it should belong to a krater (Pic-

ture: 7.6). Handles similar to the example from Antandros have been used in different cup variations. Although there are no exact examples of this handle type in gray fabric, similar types of handles have been noticed on decorated, large vessels of the Late Geometric and Sub Geometric Periods (Boehlau & Schefold 1942: taf. 13.1, taf. 46.10; Coldstream 1968: 131, 181-182, pl. 30a, e, pl. 33e, pl. 39j; İren 2008: 621, 634, fig. 26, no. 19). In the light of these similar decorated examples, it is possible to think that Cat. No. 6 also belongs to the date range in question.

Amphora and Hydria

Cat. No. 7 is an amphora rim and neck fragment with a wide everted rim plate and dark gray color on the inside and outside. Two rows of bands with incised multiple wavy lines are placed at the curve of the rim to the interior of the body, that is at the beginning of the neck (Picture: 8.7). The bands of incised multiple wavy lines are one of the most common decorative patterns of gray ceramic in the Bronze and Iron Ages (Lamb 1930/31: 175, 177, fig. 5, pl. 27, no. 4; Blegen et al., 1958: fig. 274.6-7, fig. 275.1-3, fig. 291.2, fig. 300.VIII.88, fig. 301.1-6; Utili 1999: 230-231, 315, abb. 30; Utili 2002: 143, 148-149, no. 26-27, abb. 6, no. 45-46; Danile 2009: 312-314, fig. 11, 13). However, wavy line decoration is usually used on rims, shoulder surfaces between handles or bellies of vessels, whereas in the example from Antandros it is placed right inside the rim, in a not very visible field which is quite interesting (Ayaz 2021: 299-301, şek. 1.166, Rho 17; Nikov 2012: fig. 13.1, fig. 40.7). The decoration of incised lines used in the Bronze Age and during the 8th-middle of the 6th century BC part of the Iron Age cannot be used alone as a dating criterion. Although fragment No.7 is very partially preserved it is certain that it is a rim fragment of a Shoulder Handled Amphora, which was used as an urn in the necropoleis of Assos and Antandros. Similar examples of this shape from these necropoleis are dated to the second half of the 7th – first half of the 6th century BC (Utili 1999: 230, 315, abb. 30, no.526; Yağız 2008: 100-101, kat. no. 7, 10).

Cat. No. 8 is an amphora or hydria fragment with an everted thickened rim and a concave neck curving at the bottom of the rim (Picture: 8.8). Unpublished and fully preserved examples with this type of rim where unearthed in the necropolis of Antandros in previous years (Grave 166, CRT 1; Grave 187, CTL 1. Second half of the 7th century BC). Rim fragments in similar shape can be found among ceramics of the late 8th-7th centuries BC in centers with a concentration of gray ceramics such as Assos, Troia and Maydos (Ayaz 2021: 181, şek. 1.74, no. As 268; 114, şek. 1.21; 131-132, şek. 1.133, Ma 47).

Cat. No. 9 is probably a rim and neck fragment of an amphora, with a simple rounded lip and a shallow groove just below the rim on the out-

side. The rim and neck of the vessel were pressed from two sides to give an oval shape. The outer surface is fine polished over black slip in order to resemble black glaze. Horizontal and vertical polish traces are visible all over the surface (Picture: 9.9). Vessels with very dark gray polished and oval rims created by pressing from the sides are mostly known through the gray ceramics of Lesbos (Antissa: Lamb 1930-1931: 169, 178, pl. XX-VIII, no. 3; Lamb 1931-1932: 54, pl. 20, no. 2-3; Acheilara 2012: 64, 68, εικ. 15). Although an example from Antissa was defined as a kantharos, the narrow and long neck gives it similar qualities with the example No. 9 from Antandros. This example from Lesbos was dated to the 6th century BC through comparison to the inscribed gray ceramics from Naukratis. (Antissa: Lamb 1930-1931: 169, 178, pl. XXVIII, no. 3; Lamb 1931-1932: 54, pl. 20, no. 2-3). The existence of kantharoi with deliberately shaped oval rims in Antissa was stressed by Lamb. This application is also very common on the Kharakesion, a special vessel shape known with very few examples and dated to the 8th-6th centuries BC (Polat 2004: 215-224).

Jugs and Trefoil Mouth Oinochoai

Cat. No. 10 is a fragment with an everted rim and a short, concave, grooved neck. The vessel has gray paste, and the surface is polished on brown to black slip. Possibly due to firing error the surface color has not turned into black or dark gray (Picture: 10.10). It is noteworthy that the closest counterparts of these vessels, which probably belong to single-handled jugs, were found in Black Sea settlements (Lungu 2009: 20, 21, 38, fig. 12 a, b; Bylkova 2009: 150-151, fig. 2, no. 2, no. 4; Handberg et al., 2009: 169, fig. 5 a, b). Handberg states that this shape is common in the Northwest Black Sea region, and even eastwards to the Don delta, Kuban region and Georgia. These ceramics are reliably dated to the late 5th-early 4th century BC, since they were found together with Attic ceramics in the Olbia and Penskoye necropoleis (Handberg et al., 2009: 169). These ceramics with neck grooves, which also exist in the lower Dinyeper region, can be seen in Histria after the 6th century and become popular in the Eastern Mediterranean in the 5th-4th centuries BC (Bylkova 2009: 151). An example among the black glazed ceramics of the Athenian Agora was found mixed in a 4th-3rd century BC context and the possible production center of the ceramic was indicated as Aiolis (Sparkes & Talcott 1970: 356, pl. 79, fig. 14, no. 1707).

Cat. No. 12 is a rim neck fragment of a closed cup, with a downturned hook-shaped rim and an outwardly widening neck. The vessel has a matt black slip and bears shallow grooves on the neck (Picture: 11.12). The publications and information specified for Cat. No. 10 should also apply to Cat. No. 12. However, the matt black glaze on the surface suggests that example No.12 may be of a later date (Nif -Olympos: Bilgin 2015: 36-37, pl. V.40. last quarter of the 4th century BC).

Cat. No. 11 is a rim body fragment of a polished, closed vessel, with a flat and narrow rim plate, a neck slightly widening outward, with grooves in different thicknesses on the exterior (Picture: 10.11). The color, gloss and general shape features of the vessel are reminiscent of metal cups. The rim fragment of a jug with a grooved exterior found in Assos is not similar in profile. However, the fact that this piece, dated to the second half of the 7th century-first half of the 6th century BC, also belongs to a jug, and has a similar application of grooves on the outer surface makes comparison possible (Utili 1999: 237, 319, abb. 34, no. 582). Another rim fragment from Apollonia Pontica dated to 575-525 BC bears even closer similarities (Nikov 2012: 36, 186, fig. 27, no. 8). In addition to the Assos and Apollonia Pontica jug rim fragments, the general characteristics of gray ceramics from Antandros suggest that fragment No.11 may also belong to the 6th century BC.

The trefoil mouth oinochoe is the most common shape found in nearly all settlements where gray ceramics are found (Bayne 2000: 165, fig. 41, no. 1-2, 4, 194, fig. 55, no. 10). Cat. No. 13 is a trefoil mouth oinochoe rim and neck fragment, profiled with grooves and ridges at the outside of the rim. The exterior is light gray and fine polished, the interior is left unpolished but has traces of red paint (Picture: 11.13). Examples with preserved paint are very few in gray ceramic. Piece No.13 is a very rare example thanks to this characteristic and the multiple grooves on the outer surface. Like Cat. No. 11, the gray color, glossy polish, and plastic projections of Cat. No.13 give the impression of silverware. Although no example resembling the rim fragment from Antandros was found, it should probably date to the Archaic period, like the other oinochoai.

The trefoil mouth oinochoe fragments Cat. No. 14 and 15 were found in many settlements such as Assos, Maydos, Antissa and Apollonia Pontica. Like Antandros, examples with profiled or plain outer surfaces were found in these settlements (Picture: 12.14-15) (Lamb 1931-1932: pl. 21, 15; Gebauer 1990: abb. 4-5, nr. 16-19; Utili 1999: 321, abb. 36, 631-635; Nikov 2012: 225, fig. 54, 3, 225-05, 233-45; Chabot Aslan & Sazcı 2016: 136, fig. 15, cat. no. 34; Ayaz 2021: 825, lev 58, As 282-287). Based on similar examples the pieces No.14 and 15 might be dated to the 7th-6th century BC.

Lidded vessels

Cat. No. 16 is a rim and body fragment of a lidded vessel, with an upturned, high, thin rim, a thin vertical indentation at the resting surface of the lid, and a sharp body curve. The outer surface is finely polished, and two deep horizontal grooves are placed just below the resting surface of the lid (Picture: 13.16). Lidded vessels are not very common in gray ceramics and similar examples to Cat. No. 16 were found in Larisa, Kyme

and Pyrrha. Although none of these examples is exact similar, they are mentioned as analogous representatives of the shape (Boehlau & Schefold 1942: 121, abb. 46a; Camera 2017: fig. 12; Utili 2002: 149-150, abb. 6, 51). The above examples are shapes dated to the 7th century BC; however, it would be more suitable to date vessel fragment No.16 to the Archaic Period in general. This dating is also made more likely by the clay and surface characteristics of the vessel.

Cat. No. 17 is a lidded vessel fragment with a slightly incurved, short, vertical rim and sharply everted lid resting surface with protrusions. The inner and outer surfaces are polished, and an oval profiled handle is placed horizontally right below the rim of the deep, vertical bodied vessel (Picture: 13.17). Only few examples are known in gray ceramic. The example from Apollonia Pontica is one of the most similar examples with its deep, cylindrical body (Nikov 2012: 53, 196, fig. 37, 7). An example from Assos is also similar in its deep body, but there are differences in the details of the rim (Bayne & Spencer 2007: 94, fig. 31b). Gray examples of lidded vessels are known in Larisa, but they have different qualities from example No.17 (Boehlau & Schefold 1942, 121, abb. 46a, b). Based on similar examples 575-525 BC may be suggested for dating the Antandros example.

Bowls/Dishes

Example No. 18 is a rim-body and handle fragment of a polished bowl with a rounded resting surface on the rim and a sharp turn on the interior, grooved between the handles, and with a slightly rising thick cylindrical handle placed just below the rim (Picture: 14.18). The surface and clay properties, the thick cylindrical handles, and the grooves at the root of the handles urge us to search for similar examples among the Bronze Age ceramics. A bowl among the Panaztepe Gray Minyan ceramics with thick cylindrical handles and grooves in the handle area bears features common in the Bronze Age. Many examples of this type of bowls were also found in the Troia excavations (Aykurt 1999: lev. 11, 44-45, K.III.2; Pavuk 2002: 44-45, fig. 6.17, fig. 7.22. Blegen A 61). However, no exact equivalent of bowl No.18, which certainly differs from Bronze Age bowls with its rim profile, was found among 1st millennium ceramics. Despite the differences in the details, the closest parallel from this period was found in Larisa and is dated to 700-650 BC (Boehlau & Schefold 1942: 115-116, abb. 39b). Besides Larisa, a similar rim profile is found in dishes and bowls of the 8th-6th century BC in Daskyleion, Sardeis, Assos, Lemnos and Lesbos (Buchholz 1975: 97-98, abb. 28.p; Polat 2002: 63-68, lev. 16-17, lev. 19, A.12-13; Daniele 2011: 66, 222-223, tav. XVIII.84, tav. XIX.85-86; Ayaz 2021: 372, 779, lev. 12.As. 56). Similar rim characteristics can be found in the decorated ceramic groups of the Archaic Period (Polat 2002: 63).

Cat. No. 19 and 20 are two examples of bowls with a flat rim plate and two deep grooves right below the rim on the exterior (Picture: 14.19, Picture: 15.20). Grooves in various thicknesses, from thin to wide, are the most widely used decorative element of gray ceramic and was used in bowls and dishes unearthed in numerous settlements (Utili 2002: 137, abb.1, 4-5, 7; Frasca 2015: 89, 274, fig. 11, cat. no.9; Ayaz 2021: 137, şek. 1.37, Ma 4). Also, some Archaic examples of vessels with flat rims similar to the bowls in subject but still with not exactly the same characteristics, were found in some settlements (Utili 1999: 257, abb. 41. 748; Ayaz 2021: 159-160, şek. 1.45, As 17, 18). Among these the closest similar to Cat. No. 20 is a gray bowl unearthed in a sacrificial area in Ephesos and dated to the second half of the 7th century BC (Kerschner 1997: 111, taf. II.7).

Cat. No. 21 is a rim and body fragment of a bowl with a rounded rim, thick wall, and finely polished inner and outer surface. Deep traces of polish are visible on the interior (Picture: 15.21). As is the case with example No. 21, variations of bowls with simple rims are among the most common shapes in gray ceramics (Utili 1999: 251, 324, abb. 39, no.700-701).

The bowls with incurved rim are another common shape of gray ceramics, represented with examples No.22-25 (Picture: 16.22-23, Picture: 17.24-25). Cat. No. 22 and 23 are light gray, Cat. No. 24 and 25 are very dark gray, nearly black polished on the exterior. The rim curve of the bowls with incurved rims found in various settlements does not have a standard curve depth. Therefore, it is not possible to classify bowls of the 8th-5th centuries BC based only on the curve depth (Buchholz 1975: 97-98, abb. 28o; Manyas 1978: 21, lev. VIII.f; Kerschner 1997: 112-113, taf. II.8, 119, 122, taf. IV.21; Bayne 2000: 147, fig. 35, 7; Handberg 2013: 4-5, fig. 3.a, b, fig. 4). However, the bowls with incurved rim of the Hellenistic Period are easily distinguished by the curve of the rim. Looking at the dating ranges, it is seen that bowls similar to these four examples are dated between the 8th and the 5th century BC. In Daskyleion the most densely recovered group classified as Type II is dated to the late 6th-early 5th century BC (Polat 2002: 96-97, lev. 42.B.10, lev. 43.B.11-12). Similar examples from Sardeis, Gryneion, Ainos, Prilep, Lesbos and Thrakia are dated to the 7th-5th century BC. (Lamb 1932: 9, fig. 2, no.19; Polat 2002: lev. 44.2-4, lev. 45.1-4, 7; İlieva 2013: 169-170, fig. 17, no. 1-4). In the settlement levels of Antandros, single-handled bowls with incurved rims found in situ on the floor of a house which was destroyed by fire are dated between 600-500 BC with certainty and are hence very important for the repertory of shapes of gray ceramic (Polat et al., 2018: 205-206, fig. 6-7).

Cat. No. 26 and 27 are rim and body fragments of bowls with rounded rims and shallow grooves right below the rim on the exterior. The interior of the bowls is all over black glazed, but only half of the exterior is so

(Picture: 18.26-27). Although no exact equivalents were found in other settlements, the black glaze on the surface covering only the upper half of the exterior is a characteristic which gets both examples closer to the Classical and most possibly to the Hellenistic Period (Dupont 2009: 43, 48, fig. 5a, b). Cat. No. 26 and 27 also have similar characteristics to the C1 group of Campana C ware produced in Sicily during the Late Hellenistic Period (Kenrick 1985: 49-50, fig. 8. B63.1).

Cat. No. 28 is a bowl with an incurved rim, a ring foot and is semi glazed on the exterior (Picture: 19.28). Both the profiles of the rim and the foot as well as the semi glaze on the exterior clearly show that it belongs to the Hellenistic Period. This shape was produced in both red and gray fabric. The deep incurved bowls became popular in the 3rd century BC and completely replaced shallow bowls in the second half of the 3rd century BC. Rottroff remarks that bowls with semi glaze, as is the example No.28, were produced in the late 2nd-1st century BC (Rottroff 1997: 162-163). Examples of bowls with this type of incurved rim were found in Pergamon, Ephesos, Labraunda, Sardis and many settlements with excavation areas of the Hellenistic Period (Boehringer & Krauss 1937: 117-118, taf. 56 c-d; Hellström 1965: 44, 75, pl. 38, no. 352-353; Ziegenaus & Luca 1968: taf. 64, no. 119; Hayes 1991: 26, 29, fig. XIV 8; Gassner 1997: 40-42, taf. 4, no. 65).

Kantharos/Pitcher

Cat. No. 29 is a rim fragment of a kantharos or pitcher with a high vertical lip. The interior and exterior of the cup are fine polished (Picture: 20.29). The most common examples of kantharoi with high and vertical rims in decorated ceramics in Northwestern Anatolia are among the ceramics known as G 2-3 ware. An example found in the necropolis of Tenedos and dated to the end of the 8th-early 7th century BC is representative of this shape (Arslan & Sevinç 2003: abb. 6.1.4; Hertel 2008: 149, abb. 39; Ayaz 2021: 238, şek. 1.125, M.62.4). The examples of gray ceramic which have similarities are once again mostly kantharoi (Lamb 1930-1931: 175, fig. 5, no. 3; Acheilara 2012: εικ. 15; Danile 2015: 446-447, fig. 3i) The kantharoi compared hereby are dated to the 8th-first half of the 6th century BC.

Skyphos

Cat. No. 30 is a rim and body fragment of a skyphos, with examples unearthed in many settlements with gray ceramics. It is very thin walled and fine polished on the inner and outer surface (Picture: 21.30). The skyphos is one of the most beloved shapes of Corinthian and Athenian pottery, and for this reason it must have been widely used in gray pottery as well (Payne 1931: pl. 22.2, pl. 33.11; Sparkes & Talcott 1970: fig. 4.305; Polat 2002: 217-218). Although not exactly similar to Cat. No. 30, skyphos examples were found at the excavations in Daskyleion, Smyrna, Phokaia, Troia,

Lesbos and Kyme (Lamb 1932: 9, fig. 2, no. 18-19 (Lesbos); Blegen et al., 1958: fig. 317.10 (Troia); Frasca 1993: 54, fig. 5d-6 (Kyme); Bayne 2000: fig. 44.9 (Smyrna); fig. 52.6 (Phokaia); Polat 2002: 113-118, lev. 55, c5-c6, lev. 56, c7-c10; lev. 57, 4-7 (Ainos, Smyrna, Pitane); Polat 2022: 225, res. 4-5, kat. no. 5).

Conclusion

Every study done or to be done on gray monochrome ceramics, which is one of the predominant ceramic traditions of Northwestern Anatolia in the Archaic Period, is greatly valuable. In fact, it may be noted that studies on gray ceramics of the 1st millennium BC are still very new compared to other ceramic schools. The most important reason behind the scarcity of studies on this ceramic group is that they are products of local workshops and are mostly not suitable for comparison by analogy. The fact that their decorations also have a tradition that continues from the 2nd millennium to the 1st millennium BC does not provide a reliable basis for dating. The value of publications on gray ceramics that were found in accurately dateable contexts is undeniable. However, in order to provide valuable information about the shape repertory in use, the presentation of the finds obtained from areas that do not allow clear dating is also of great importance in showing the relationship between the settlements with regard to gray ceramics. The gray ceramics recovered from the Antandros Store No. 1 filling have a wide variety of forms and were examined here with the aim of contributing to the shape repertory.

The above evaluations have shown that the floor filling of Store No. 1 has gray ceramics spanning from the 2nd millennium BC to the Hellenistic Period. It is not certain that the examples No. 1 and 18 examined above are examples of gray ceramic from the 2nd millennium BC. However, some pieces of red slipped Bronze Age ceramics found inside the filling still create this possibility for these two pieces. The ceramics of the 8th-6th century BC are the densest group among the gray ceramics (Polat et al., 2020: 263; Çobanoğulları 2021: 16-19, kat. no. 3-4). This density also coincides with data observed in other Northwestern Anatolian settlements. The gray ceramics which were the most dominant ceramic group in the 8th-7th centuries BC, gradually lost this density in the 6th century BC. One of the most important reasons for this change is the dominance of Attic black glazed or figured ceramics in the market. As a matter of fact, the production of black surfaces and parallels of Attic shapes in the gray ceramics of the 6th-5th centuries validate this idea (Polat 2002: 116, lev. 56.9-10; Ayaz 2021: 564-565).

Catalogue

Krater, Dinos and Stamnos (Cat. No. 1-6) (Pictures 5-7)

1. Krater rim-body fragment. IBL 158. South of the room, 16.80/16.67 m; H: 6,5 cm; D (rim): 33,4 cm; Clay Color: Gley 2 7/1-10B light bluish gray; Fabric Temper: lime, grit; mid-8th -mid-7th century BC
2. Dinos rim-body fragment. IBH 171. South of the room, 17.15/17.11 m; H: 8.9 cm; D (rim): 26 cm; Clay Color: 2.5 Y 6/2 light brownish gray; Glaze Color: Gley 1 5/N gray; Fabric temper: Grit, mica; 7th-6th century BC
3. Dinos rim-body fragment. IBG 103. D/E-3 grid, 17.26-17.15 m; H: 4 cm; D (rim): 26,8 cm; Clay Color: Gley 2 5/1-10B bluish gray; Glaze Color: Gley 1 5/N gray - Gley 1 4/N dark gray; Fabric Temper: Grit and mica; Late 8th century BC
4. Stamnos rim-body fragment. IBH 199. South of the room, 17.15-17.11 m; D (rim): 20 cm; H: 2,2 cm; Clay Color: Gley 1 7/N light gray- Gley 1 6/N gray; Fabric Temper: Stone, mica; 7th-6th century BC
5. Stamnos rim-body fragment. IBH 131. South of the room, 17.15/17.11 m; H: 3,6 cm; D (rim): 18,6 cm; Clay Color: Gley 2 5/1-5B bluish gray; Glaze Color: 10 YR 2/1 black; Fabric Temper: Grit, mica; 6th century BC
6. Krater handle fragment. IBG 114. C/D-2/3 grid on the west, 17.26-17.15 m; Clay Color: Gley 2 5/1-10B bluish gray; Glaze Color: Gley 1 5/N gray; Fabric Temper: Grit and mica; Late Geometric – Sub-Geometric (?)

Amphora and Hydria (Cat. No. 7-9) (Pictures 8-9)

7. Amphora rim-neck fragment. IBL 145. South of the room, 16.80/16.67 m; H: 2,2 cm; D (rim): 17,9 cm; Clay Color: Gley 2 6/1-5B bluish gray; Glaze Color: 5 Y 4/1 dark gray; Fabric Temper: Lime and grit; Second half of 7th century – first half of 6th century BC
8. Amphora or Hydria rim-neck fragment. IBH 157. South of the room, 17.15-17.11 m; H: 2,7 cm; D (rim): 29,4 cm; Clay Color: Gley 1 7/N light gray- Gley 1 6/N gray; Fabric Temper: Grit, mica; Late 8th-7th century BC
9. Amphora (?) rim-neck fragment. IBH 273. South of the room, 17.15-17.11 m; H: 14,5 cm; D (rim): 19,6 cm; Clay Color: Gley 2 6/1-10B bluish gray - Gley 1 7/1-10Y light greenish gray; Glaze Color: Gley 1 3/N very dark gray; Fabric Temper: Lime, grit; 6th century BC

Jug and Trefoil Mouth Oinochoe (Cat. No. 10-15) (Pictures 10-12)

10. Jug rim-neck fragment. IBH 120. South of the room, 17.15-17.11 m; H: 5 cm; D (rim): 10 cm; Clay Color: Gley 2 6/1-5B bluish gray; Glaze Color: 10 YR 4/3 brown; Fabric Temper: Grit and mica; Late 5th – early 4th century BC (?).
11. Closed vessel rim-neck fragment. IB 163. South of room, 16.80-16.67 m; H: 3,4 cm; D (rim): 10 cm; Clay Color: Gley 2 6/1-5PB bluish gray; Fabric Temper: Grit, mica; 6th century BC
12. Jug rim-neck fragment. IBH 111. South of the room, 17.15-17.11 m; H: 3,5 cm; D (rim): 10,6 cm; Clay Color: Gley 1 5/N gray-Gley 1 3/N very dark gray; Fabric Temper: Grit, mica; Late 5th – early 4th century BC (?).
13. Trefoil mouth oinochoe rim-neck fragment. IBL 182. South of the room, 16.80-16.67 m; H: 4 cm; Clay Color: Gley 1 6/N gray10 R 5/2 weak red; Fabric Temper: Grit; Archaic Period
14. Trefoil mouth oinochoe rim-neck fragment. IBF 63. C/D-2/3 grid on the west, 17.15-17.11 m; H:4,6 cm; Clay Color: Gley 1 6/N gray; 7th-6th century BC
15. Trefoil mouth oinochoe rim-neck fragment. IBL 159. South of the room, 16.80-16.67 m; H: 6,9 cm; Clay Color: Gley 1 6/10Y greenish gray; Fabric Temper: Grit, mica; 7th-6th century BC

Lidded Vessels (Cat. No. 16-17) (Picture 13)

16. Lidded vessel rim-body fragment. IBH 119. South of the room, 17.15-17.11 m; H: 3 cm; D (rim): 21,8 cm; Clay Color: Gley 2 5/1-10B bluish gray; Glaze Color: Gley 1 4/N dark gray; Fabric Temper: Grit, mica; Archaic Period
17. Lidded vessel rim-body fragment. IBH 112. South of the room, 17.15-17.11 m; H: 5,9 cm; D (rim): 10 cm; Clay Color: Gley 2 5/1-10B bluish gray; Glaze Color: Gley 1 3/N very dark gray; Fabric Temper: Grit, mica; 6th century BC

Bowl (Cat. No. 18-28) (Pictures 14-19)

18. Bowl rim-body and handle fragment. HZZ 111. 1.60 m. south of the north wall, 17.55-17.26 m; H: 5,4 cm; D (rim):34,4 cm; Clay Color: Gley 2 5/1-5B bluish gray; Glaze Color: Gley 1 5/10Y greenish gray; Fabric Temper: lime and grit; late 8th – 6th century BC.
19. Bowl rim-body fragment. IBL 156. South of the room, 16.80-16.67 m; H: 3,7 cm; D (rim): 29,4 cm; Clay Color: Gley 2 4/1-10B dark bluish gray; Fabric Temper: Grit, lime; Archaic Period

20. Bowl rim-body fragment. IBG 101. C/D-2/3 plan square, 17.26-17.15 m; H: 3 cm; D (rim): 27,4 cm; Clay Color: Gley 1 4/N dark gray- Gley 1 6/N gray; Fabric Temper: Grit; Archaic Period
21. Bowl rim-body fragment. IBF 45. C/D-2/3 grid on the west, 17.15-17.11 m; H: 3,1 cm; D (rim): 23,2 cm; Clay Color: Gley 1 5/N gray; Fabric Temper: Lime, grit
22. Bowl rim-body fragment. IBH 169. South of the room, 17.15-17.11 m; H: 2,6 cm; D (rim): 16,4 cm; Clay Color: Gley 1 6/N gray.
23. Bowl rim-body fragment. IAS 32. 1. North of the room, south of the floor, 17.55-17.26 m; H: 3,2 cm; D (rim):6,4 cm; Clay Color: Gley 1 6/N gray- Gley 1 5/N gray; Fabric Temper: Grit.
24. Bowl rim-body fragment. IBH 198. South of the room, 17.15-17.11 m; H: 3,3 cm; D (rim): 13,2 cm; Clay Color: Gley 1 4/N dark gray; Glaze Color: Gley 1 3/N very dark gray; Fabric Temper: Grit.
25. Bowl rim-body fragment. IAT 4-18. 1. Hard yellow soil on the northwest of the room, 17.55-17.26 m; H: 4,3 cm; D (rim): 21 cm; Clay Color: Gley 2 5/1-5B bluish gray; Glaze Color: Gley 1 3/N very dark gray; Fabric Temper: Grit.
26. Bowl rim-body fragment. IAS 35. 1. North of the room, south of the floor, 17.55-17.26 m; H: 4,1 cm; D (rim): 16,4 cm; Clay Color: Gley 2 7/1-10G light greenish gray; Glaze Color: Gley 1 3/N very dark gray; Fabric Temper: Fine grit; Classical – Hellenistic Period (?)
27. Bowl rim-body fragment. IAS 35A. 1. North of the room, south of the floor, 17.55-17.26 m; H: 3,2 cm; D (rim): 14,8 cm; Clay Color: Gley 1 6/N gray- Gley 1 4/N dark gray; Fabric Temper: Grit
28. Bowl rim-body fragment. IBH 293, IBH 344-IAU 34. South of the room, 17.15-17.11 m; H: 5,9 cm; D (rim): 15,4 cm Clay Color: Gley 2 5/1-10B bluish gray; Glaze Color: 2.5 YR 3/1 very dark gray; Fabric Temper: Lime, grit, a little mica; Late 2nd – 1st century BC

Kantharos/Pitcher (Cat. No. 29) (Picture 20)

29. Kantharos or Pitcher rim-body fragment. IBH 160. South of the room, 17.15-17.11 m; H: 4,8 cm; Clay Color: Gley 1 5/N gray- Gley 1 4/N dark gray; Fabric Temper: Mica; 8th – 6th century BC.

Skyphos (Cat. No. 30) (Picture 21)

30. Skyphos rim-body fragment. IBL 184. South of the room, 16.80-16.67 m; H: 5,8 cm; D (rim): 12,8 cm; Clay Color: Gley 2 5/1-5B bluish gray; Glaze Color: Gley 1 5/10Y greenish gray; Fabric Temper: Grit, mica; Archaic Period

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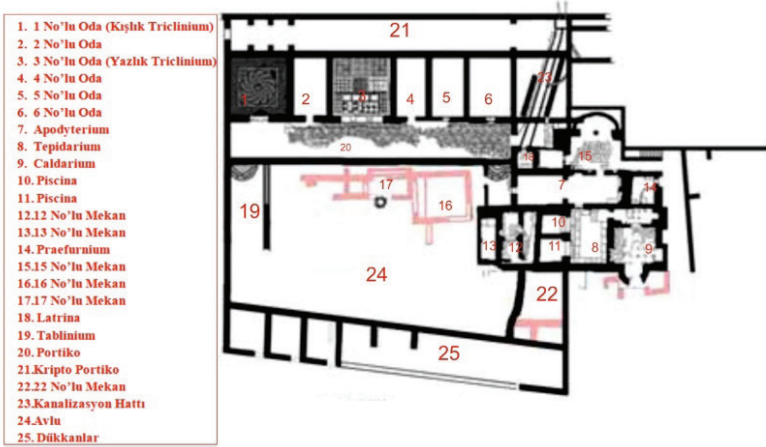
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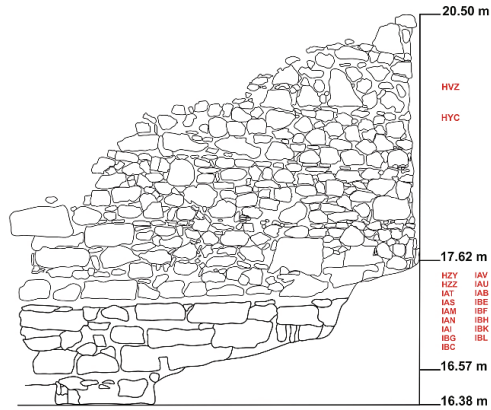
Picture 1: Location of Antandros (Talbert 1985: 47.)



Picture 2: Sectors Under Study in Antandros



Picture 3: Roman Villa Sector, Plan of the Roman Villa (Polat et al., 2019: 270, Plan 1.)



Picture 4: Section Drawing of Store No.1 and Levels Where Ceramics Were Found (Çobanoğulları 2021: Picture 11, 317.)



Picture 5: Cat. No. 1-2



Picture 6: *Cat. No. 3-4*



Picture 7: *Cat. No. 5-6*



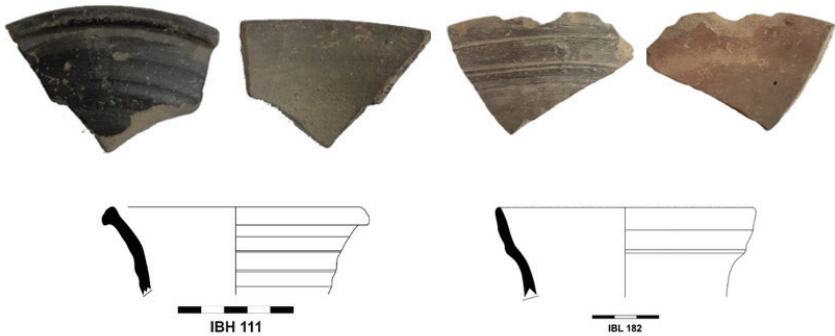
Picture 8: *Cat. No. 7-8*



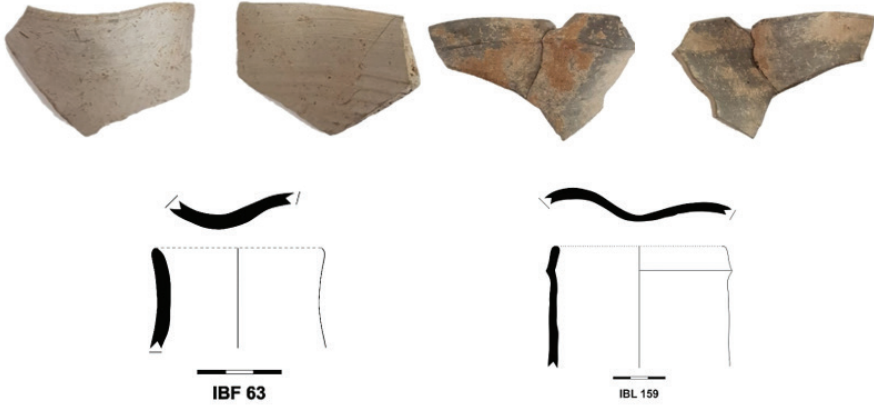
Picture 9: *Cat. No. 9*



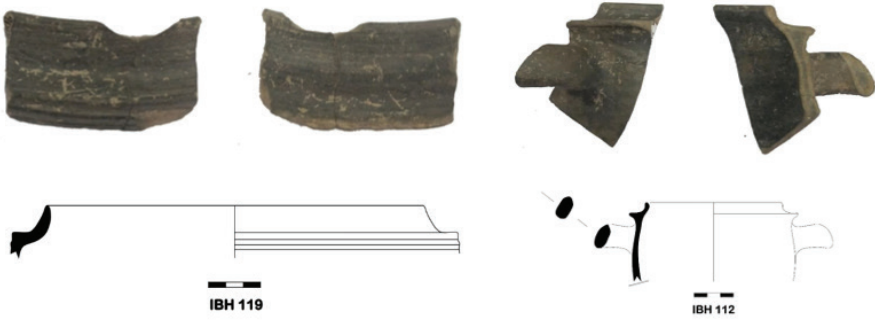
Picture 10: *Cat. No. 10-11*



Picture 11: *Cat. No. 12-13*



Picture 12: *Cat. No. 14-15*



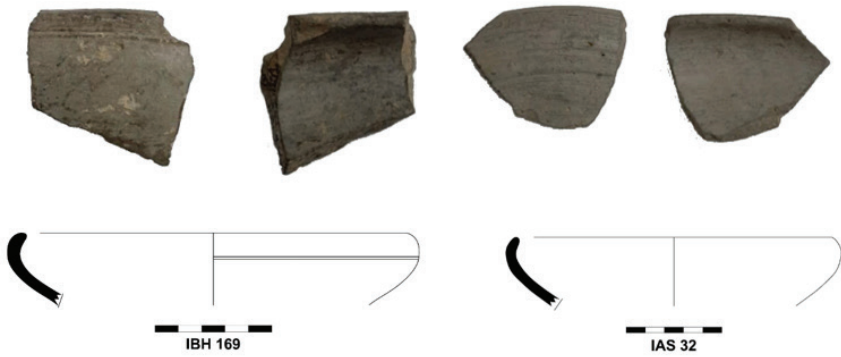
Picture 13: *Cat. No. 16-17*



Picture 14: *Cat. No. 18-19*



Picture 15: *Cat. No. 20-21*



Picture 16: *Cat. No. 22-23*



Picture 17: *Cat. No. 24-25*



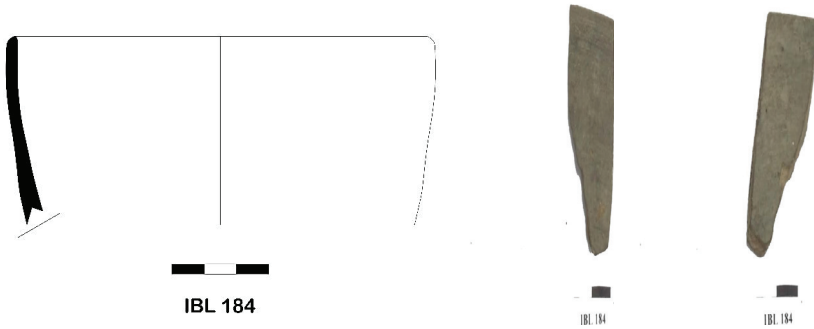
Picture 18: *Cat. No. 26-27*



Picture 19: *Cat. No. 28*



Picture 20: *Cat. No. 29*



Picture 21: *Cat. No. 30*



CHAPTER 7

AN EVALUATION OF CAPITAL FLOWS IN THE CONTEXT OF INTERNATIONAL POLITICAL ECONOMY

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1. Introduction

Today's financial world is the result of four thousand years of economic evolution. Representing the crystallized relationship between debtor and creditor, money gave birth to banks in which larger borrowings and lending were exchanged. In the 13th century and later, government bonds securitized interest payments, while bond markets revealed the benefits of public, regulated markets for buying and selling securities and pricing them. From the 17th century onwards, company stocks were bought and sold in a similar way. In the 18th century, first insurance and then pension funds provided financial protection against calculable risks by taking advantage of economies of scale and the law of averages. In the 19th century, the first financial derivatives came into play as special and complex instruments along with futures and options. By the 20th century, people were encouraged to borrow for political reasons and shift their portfolios to real estate (Ferguson, 2018, s. 273).

The origin of the concept of financial capital is based on the book of Rudolf Hilferding (1910) written at the beginning of the 21st century. In his work, Hilferding deals with the increase in the concentration and centralization of capital in large companies, cartels, trusts, and banks, together with the change in the direction of capital exports from industrialized countries that occur in the structure of the capitalist economy and act according to higher profit rates on a global scale. Accordingly, investment capital is predominantly under the control of London. The concept of finance capital has been revived in order to emphasize the globalization prevailing in the late 20th and early 21st centuries. This phenomenon, which is a new form of financial capitalism, most of New York, Frankfurt, Tokyo, and Hong Kong and is located in the center like Singapore, management, and governance of institutions which are linked to investment banks, firms that specialize in specific areas such as risk assessment is provided by institutions concentrates on the propagation of the high amounts of wealth accumulation. For example, New York has become a hub for control over financial capital flows, as well as a port for goods entering and leaving the United States. In this context, in the early 1980s, the annual total trade in goods and services and total long-term securities in the USA was approximately one trillion dollars, while in the early 2000s the trade in goods was four trillion and the securities trade was fifteen trillion dollars (Steil & Litan, 2006, s. 3). Shortly, financial capital has a controlling power over all economic values. This gives it the chance to be a very important power over policymaking, employment, and income level (Peet, 2011, s. 56).

The complex relationship between states and markets in the international system represents the mutual competition and cooperation of two different logics, the logic of borders and the logic of capital. The logic of

borders points to the efforts of states in a constant search for power to dominate over certain borders and human and natural resources within these borders. On the other hand, the logic of capital corresponds to the effort of market actors in search of continuous welfare to maximize their capital accumulation by means of trade, money flow, and technology transfer in an expanding volume, often crossing borders. The logic of the state trying to benefit from the welfare produced by the markets in order to gain power, and the efforts of the capital logic, which aims to increase its welfare, to back up the state's rule-making, regulatory and revenue-generating authority, constitute the cooperation dimension of mutual interaction. On the other hand, the conflict between the two logics on priorities and goals causes mutual cooperation to turn into competition (Arrighi, 2005, s. 27-30). International capital flows can be seen as one of the phenomena that best reflect the interaction of the market and the state on a global scale.

2. Conceptual Framework

The conceptual framework of this study consists of the concepts of "International Political Economy" and "International capital flows". The concept of "International Political Economy" refers to a disciplinary field, and the concept of "International capital flows" refers to a global economic phenomenon.

2.1. International Political Economy

International Political Economy (IPE) is a rapidly developing field of social science that seeks to understand global issues using an eclectic set of analytical tools and theoretical perspectives. IPE is an approach that breaks down the disciplinary barriers and borders between economics and politics in particular and social sciences in general. Interesting and dominant problems can best be resolved from a multidisciplinary, interdisciplinary, or transdisciplinary perspective. It requires a holistic scientific approach to understand and interpret the economic and political world in particular, and the whole life in general, and to develop decisions that have become very complex. IPE is a field of study of interrelated problem sets. The traditional IPE problematique includes the analysis of international trade, international finance, north-south relations, multinational corporations, economic development, environmental problems, hegemony and counter-hegemony, and IPE of globalization. This problematique has recently expanded, and some authors have attempted to construct a new IPE with a less central focus on international politics and the nation-state and less focus on economic policy. The theoretical structure of IPE mainly consists of the ideologies of Mercantilism, Liberalism, and Marxism. Table 1 reflects a picture of the theoretical structure of IPE.

Table 1. Comparing the main IPE Approaches

Aspect	Mercantilism	Liberalism	Marxism
Historical origins	15th century	19th century	19th century
Major figures	Hamilton, List, Krasner, Gilpin, Strange	Smith, Ricardo, Kant, Wilson, Keynes, Hayek, Keohane, Nye	Marx, Engels, Lenin, Frank, Cox
Variants	Realism Neomercantilism Economic Nationalism	Free trade Interdependence Keynesianism	Critical Theory Dependency School World Systems
Human nature	Aggressive	Cooperative	Malleable
Unit of analysis	States	Firms, states, NGOs, IGOs, individuals	Social classes
View of the state	Homogeneous Unitary Actor	Pluralist state: diverse interests	Representative of the ruling classes
View of TNCs	Beneficial/harmful	Beneficial	Exploitative
Behavioral dynamics	The state as a rational actor	The individual as a rational actor	Dominance and exploitation in society and between societies
Market relations	Potentially Negative	Positive	Exploitative
System structure	Anarchy/conflictual	Cooperative / Interdependence	Hierarchy/conflictual
Game metaphor	Zero-sum	Positive sum	Zero-sum
Hegemony	The importance of the dominant state	Post-hegemonic cooperation	Hegemony in the state and society
International institutions	Not very significant	Important	Serve interests of wealthy

Source: (O'brien & Williams, 2016, s. 20).

2.2. International Capital Flows

International capital flows, which developed with financial liberalization processes and added a different dimension to capital relations between countries, has become one of the most used concepts in economics, together with globalization in general and financial globalization in particular. International capital flows refer to cross-border financial transactions recorded in the external financial accounts of economies. In its sim-

plest definition, capital flows refer to monetary movements that occur on a global scale for the purpose of investment, trade, or commercial activities. According to another definition, international capital flows express the financial dimension of international trade. International capital flows are monitored from the balance of payments statistics of the countries.

The balance of payments is a statistical report containing systematic records of economic transactions between residents of one economy and residents of other economies during a given period. The balance of payments is divided into different accounts such as current account, capital account, financial account, and net errors and omissions according to the nature of the transactions. current account; consists of goods, services, and income balances. Capital accounts, capital transfers (donation of debt), and changes in non-produced, non-financial assets (trademark) are monitored. The financial account consists of direct investments, portfolio investments, financial derivatives, other investments, and reserve assets. The net error and omission account is the account in which the differences between the accounts are followed (Demir, 2022, s. 7-8).

One of the forms of international capital flows recorded in the financial account of the balance of payments is a foreign direct investment (FDI). FDI is an investment that causes the management of a company located in another country to be controlled or significantly affected. FDI encompasses long-term relationships that may include additional contributions such as technology transfer, marketing, or management. FDI by an American residing abroad is recorded as a net purchase of assets in the U.S. balance of payments, while FDI in the U.S. by a foreigner indicates a net debt formation (Terra, 2015, s. 10). Another form of international capital flow is portfolio investment (PI). PI transactions involving stocks and debt securities, including transactions related to FDI or reserve assets. Unlike FDI, PI does not have any influence on company management. PI is associated with the financial market and provides liquidity and flexibility to the investor. Due to its characteristics, PI can be more volatile than FDI (Terra, 2015, s. 14-15). According to another definition, PIs are investments that enable the investor to purchase stocks, bonds and other financial derivatives issued by the public or private sector in a country where the investor is not resident. (Chang & Grabel, 2005, s. 142). Other investment (OTI), which refers to forms of capital other than FDI and PI, is an important category that includes money, deposits, trade, and credit transactions. A down payment for an export transaction is recorded as a net purchase of assets in this account, or a trade credit to the importer is recorded as a net liability formation. In summary, OTI records the IMF's allocation of SDRs, loans, foreign exchange transactions, and deposits between residents and non-residents. Generally, the purchase of a foreign

asset is recorded negatively in the financial account and corresponds to the rest of the world as a liability. Similarly, the sale of a domestic asset is entered positively and indicates an obligation of the country to the rest of the world (Terra, 2015, s. 15; Chang, 2014, s. 374-375)

3. International political economy approaches to capital flows

The IPE of international finance covers the analysis of exchange rate policies, exchange rate systems, and international capital flows, especially FDI, portfolio investment and debt flows, within the framework of national and international economic and political institutional structures. The types of problems covered by the problematique of the international financial and monetary system can be illustrated through three examples. The first is the IPE of international economic institutions. The second is the IPE of the euro currency. The third is the IPE of international financial crises. In this context, international capital flows are discussed in the context of Mercantilism, Liberalism, and Marxism, which are the main theoretical approaches of IPE.

3.1. The Mercantilist Approach

Mercantilism, which focuses on foreign trade policies as an economic ideology, has taken forms such as realism, economic nationalism, neomercantilism, and neorealism in the historical process. The basic analysis unit of these approaches is the state. The realist approach generally advocates the superiority of the political field over the economic one. Accordingly, the market should serve the interests of the state and the economy should be guided by the political aims of the state. The organization of the national economy should proceed consistently with national security issues, and the state should shape the economy in accordance with its interests. From the mercantilist perspective, the perception of security is not only in the military direction but also in the direction of economic welfare (Gilpin, 2001, s. 17-19). Mercantilism is an economic nationalism that emerged in Europe as an advanced ideological approach, giving priority to national security, and aiming to create a strong and rich state by restricting imports and encouraging exports. The term “Mercantilism” was first used by Adam Smith (1723-1790). As the ideology of the merchant class, it took the name Mercantilism in England, and it took different names according to the practices of other European countries. For example, the application of Mercantilism in France was called “Colbertism”, its application in Spain was called “Bullionism”, and its application in Germany and Austria was called “Cameratism”. In the mercantilist approach, money and foreign trade were at the forefront. Mercantilism is a paradigmatic approach that

shapes the economic, political, and social life of a country. In the mercantilist system of thought, deduction and induction were used together as a method.

Mercantilism has created a system of thought of economic policies that differs in every country in Europe. There are different schools of this thought system, which vary according to the country. (1) Anglo-Dutch school (Mercantilism): More focused on production and free trade, it was more of a trader's thinking than others. (2) French School (Colbertism): It supported industrialization by the state, emphasized the educational effect of the protective foreign trade policy for industrialization before the F. List, and mostly reflected the ideas of state administrators. (3) German School (Camerarism): It gave importance to state finance and administration, and its publications were written by state consultants, public enterprise managers, and university professors. (4) Italian – Spanish School (Bullionism): They focused more on money-related issues (Kazgan, 2018, s. 47). Mercantilism started with the establishment of nation-states in Europe and covers the period between the 15th and 18th centuries. It is a developed economic system at a time when Renaissance and Reformation movements in Europe and geographical discoveries in the world continued. According to the mercantilists; (1) The source of national wealth is trade. Its base is gold and silver. (2) Production must be greater than consumption. This is necessary to increase a country's money supply. (3) Export must be greater than import. In order to increase a country's gold and silver reserves, exports must be greater than imports. (4) The state should regulate the economy. Accordingly, the state should direct the economy and determine prices and wages. The main purpose of mercantilist economic policies has been to strengthen the newly established nation-states (Coşkun, 2011, s. 28-29).

Economic nationalism, a form of mercantilism, is an ideological approach to protecting the national economic system from being dependent on external factors. One of the most important pioneers of this approach is Alexander Hamilton (1755-1804), and the other is Friedrich List (1789-1846). According to Hamilton, it is possible to overcome internal problems such as inexperience or lack of capital that may hinder national industrialization only with state intervention. According to him, protectionist economic policies should be implemented in order for the national economy to remain strong in an internationally competitive environment (Erdağ, 2009). According to List, another representative of this trend, in order to develop the national industry, the preferences of individuals should be neglected for a while and the demand should be returned to national goods. In this context, List developed the “theory of productive power”. In short, List opposed the theory of free foreign trade and advocated state intervention for industrialization (List, 1904).

Neo-Mercantilism, the new form of Classical Mercantilism, which emerged in the 1970s and includes various more delicately designed protectionist policies developed against interdependence between countries. Neo-Mercantilism, while restating many of the mercantilist ideas, argues that protectionism should be applied not only in foreign trade but also in financial policies (monetary and fiscal policies). In this context, instead of open protective trade barriers such as customs tariffs, it includes policies that were more ingeniously designed, whose protective and prohibitive features were hidden and carefully implemented in the period after World War II. Many of these policies, such as non-tariff barriers, are newer economic policies designed to give economic advantage to national industries and private sectors (Altan, 2013).

Within the framework of the mercantilist approach, states are struggling with some policies against international capital flows, which they see as a threat. It is possible to argue that capital controls, which are a policy tool designed for this purpose and in which the state plays an active role, have mercantilist origins. In this context, each national economy chooses a policy tool according to itself. In some economies, taxes are imposed on short-term capital flows and gains, and a policy is applied where the rates of taxes decrease as the maturity lengthens. In some economies, a certain part of the foreign capital entering the country has to be blocked for a certain period of time. In such policies toward capital flows, the state takes measures to ensure economic stability and aims to protect itself from the harmful financial effects of capital flows (Erdağ, 2009, s. 48-49).

The neo-Mercantilist approach can clearly shape current international financial policies. Developing countries with insufficient capital accumulation and low national savings compete with each other to attract global capital. However, large-volume and volatile capital inflows or the decline in capital movements can cause macroeconomic imbalances and financial crises. Developing countries have to implement some economic policies for large-volume and volatile capital inflows, outflows, sudden stops, or reversals, and to manage capital movements effectively in line with national interests. After the 2008 global financial crisis, many countries started to resort to capital control policies¹

One of the strongest aspects of the mercantilist approach is that it focuses on the state, which is the most dominant element in international economic relations. Second, it emphasizes national security and political interests in international economic relations. Thirdly, it considers it necessary for the market to function as well as give importance to the state in international economic activities. One of the weaknesses of the realist approach is that international political economy relations are carried out

1 The studies published by the IMF (IMF, 2010; IMF, 2011) can be viewed.

alone and are always zero-sum. Trade, investment, and all other economic relations are considered nationalist primarily in the context of conflict and sharing. Second, the pursuit of power and wealth often results in conflict. Third, economic nationalism lacks a satisfactory theory of society, state, and foreign policy (Gilpin, 2017, s. 65-66).

3.2. The Liberal Approach

The liberal approach emerged in France and England at the end of the 18th century as a reaction to mercantilism and as the ideology of nascent industrial capitalism. Liberalism, in accordance with the economic structure of France, represented agrarian capitalism at its beginning. He later became the advocate of emerging industrial capitalism in France and England. The newly emerging entrepreneurial class objected to all regulations that would limit its activity in society. While opposing the commercial monopolies of mercantilism, state control, privileges, and the power of the nobility arising from landed property, it demanded freedom, individual initiative, and individual control for his own benefit. This process, led to the formation of a new philosophy that would be with it and justify its own worldview. The worldview of the entrepreneurial class became “economic liberalism” and its economic policy was “laissez-faire” (Kazgan, 2018, s. 51). This is also the motto of classical economic doctrine.

The liberal approach is mainly based on the free market system and minimal government intervention. Liberalism can be defined as a set of principles to realize maximum efficiency, economic growth, and individual welfare in a free market economy. Liberalism, in the historical process, consists of many schools such as Physiocrats, Classical, Neo-Classical, Keynesian approaches, Monetarist, Austrian, and rational expectations. All forms of economic liberalism recognize that the most effective way of regulating national and international economic relations is the market system and price mechanism. Accordingly, liberalism assumes that the market spontaneously emerges to meet human needs, starts to work, and operates with its own logic. According to liberalism, the individual consumer, firm, or household is the basis of society (Gilpin, 2017, s. 43-44).

Neoliberalism, the new form of liberalism, is the name of the ideology behind almost global economic policies, whose arrival preparations began in the 1970s and came into force in the 1980s. Neoliberal economic order was followed by globalization processes. Fundamental transformations were required to transform liberalism into neoliberalism. The then US president Ronald Reagan and British prime minister Margaret Thatcher initiated a change movement called “deregulation” whose philosophy was neoliberalism. As a result, the neoliberal system was proclaimed by these two leaders. One of the main differences between neoliberalism and libe-

ralism was the transition from the gold money system to the paper money dollar. The other is that the patronage of the system is transferred from England to the USA (Harvey, 2005; Kazgan, 2016).

The Washington Consensus approach, which is united on the basis of neo-classical financial liberalization theory, argues that by liberalizing interest rates and increasing financial instruments, depth in the financial system will be created. The Washington Consensus has made a 10-point policy recommendation. These consist of financial discipline, tax reform, restructuring of public expenditures, financial liberalization, a single and competitive exchange rate, trade liberalization, removal of restrictions on direct investments, privatization, reorganization of market entry and competition, and securing property rights. These 10-item policy recommendations also affected the policies of global credit institutions and, in particular, ensured the continuation of the financial liberalization structure of the IMF stabilization packages after 1980 as well as in the 1990s (Eroğlu, 2002, s. 24).

The liberal approach, which constitutes the ideological basis of international financial policies, proposes to ensure the full free movement of international capital flows. Thus, it is argued that developing countries will be able to compete freely in order to attract the global capital they need, and the most efficient international allocation for financial capital and countries will be realized. For this, countries need to liberalize the capital account, remove all restrictions and leave capital control policies on capital flows. In the context of financial liberalization policies, capital-exporting countries can easily enter the economies that provide the highest return for capital with opportunities in the information technologies, communication, and transportation sectors. On the other hand, financial capital can freely exit when necessary in times of political instability and economic crisis (Erdağ, 2009, s. 54).

Values such as capital, technology and management information transferred from developed economies to developing economies in a liberal world order lead to the growth of economic development and welfare in the entire international arena. Thus, the future will be a period when multinational companies and nation-states, which are seen as the most important global actors, will come out of their control and become a means of transferring capital, thought and development (Gilpin, 1975, s. 42). On the other hand, multinational companies that start their operations in countries that want to attract capital flows gain significant privileges in developing economies. At this point, it is possible to say that multinational companies are very effective in such countries if a state encourages multinational companies to come to the country or changes its laws for these companies to operate in the country (Ayhan, 2005, s. 23-24).

Financial liberalization policies implemented in developing countries were seen as efforts to get rid of the pressure of financial insufficiency and to create resources for economic growth. Abolition of selective credit controls with the financial liberalization processes, monetary policy instruments of the central bank and various applications for the banking sector are aspects of the issue related to monetary policies. Another dimension is to prepare the necessary political, legal and technical infrastructure for applications such as the transition from a fixed exchange rate regime to a floating exchange rate regime, opening of capital markets to foreigners, privatizations, and the development of new banking and credit products, especially for individual consumption. Finally, liberalization of foreign trade with export-based growth models and making the country more sensitive to the outside are other dimensions of the same policy (Erdağ, 2009, s. 55).

Liberalism, which constitutes the ideological foundations of capitalism, has been criticized in many ways. One of these criticisms is that the basic assumptions of liberalism such as rational economic actors and a perfect competition market are unrealistic. Another criticism is that the economy as a means of understanding society and especially social dynamics is limited and cannot serve as a comprehensive approach to political economy. One of the limitations of liberalism is that it artificially separates the economic sphere from other aspects of society, accepting the existing social and political framework, such as the distribution of power and property rights, the resources and other capabilities possessed by individuals, groups, and societies, the framework of social, political and cultural institutions. Another limitation is its disregard for the justice and equality that result from economic activities. Another limitation is that their analyzes tend to be stationary (Gilpin, 2017, s. 62-65).

3.3. The Marxist Approach

In reaction to the capitalist system and its ideology, liberalism, only socialism has been able to develop a paradigm that has integrity within itself. Socialism is an ideology that aims to replace private ownership of the means of production with social ownership and to prevent exploitation. The socialist approach was able to establish a coherent economic theory together with K. Marx. Among the reactions against liberalism, it is only an approach that integrates with the philosophy of Marxism, economic theory, and economic policy system. Marxism basically consists of three elements. (1) Philosophy: The source of dialectical materialism is dialectical philosophy taken from Hegel and philosophical materialism has taken from Feuerbach. The philosophy of action (praxis) has also been added to it. (2) Economic system: Its source is British Classical Economics and

especially Ricardo. (3) Revolutionary theory: Its source is the French revolutionary tradition and illusory socialism (Kazgan, 2018, s. 287-293).

There are basically four forms of the Marxist approach. (1) Classical Marxist approach: It covers the analysis of the state and the economy. Accordingly, the state is a structure created to protect the interests of the class that owns the means of production. (2) Imperialism approach: According to this, industrialized countries colonized the underdeveloped countries of the world in order to provide raw materials and market-processed products. (3) Neo-Marxist approach: It is about the world system. Accordingly, the contemporary world system consists of three different categories: center, periphery, and semi-periphery. (4) Hegemony approach: According to this, the international order is based not only on the coercive power of the dominant states but also on the independent international civil society that is the source of consent (Paul & Amawi, 2013).

The Marxist approach assumes that the basis of society is based on social classes. K. Marx argued that the working class proletariat would make the overthrow of the capitalist system inevitable due to the three “laws” inherent in the capitalist system, and therefore socialism would replace capitalism. These laws are; (1) *Law of Disproportion*: It states that overproduction and underconsumption in a capitalist system create crisis and cause anarchy. (2) *Law of Concentration of Capital*: It states that both the wealth of the productive few and the impoverishment of the proletariat increase in a capitalist system. (3) *Law of Decreasing Profit Rates*: Accordingly, the unemployment level will rise and the rate of profit or surplus value will fall as competitive pressure forces capitalism to increase efficiency and productivity by saving labor and investing in more efficient technology (Gilpin, 1987, s. 36-37).

Marxist ideology is based on the thesis that the fundamental contradiction of the capitalist system is not distribution but inefficient relations of production. It is possible to summarize this contradiction simply as production being privately owned but social in nature. In this context, the critical step for overcoming capitalism is to end the domination of private property over the productive forces. The first action to be taken is nationalization, which is described as “the dispossessed expropriation”. However, since the state is also a device to be liquidated, the will that seizes must also undergo a qualitative transformation. The means of production can be controlled and directed by social organizations at the end of a process. The increasing dominance of financial capital over productive forces in the 19th century laid the foundation for its control and direction function (Somel, 2015, s. 97).

According to the Marxist approach, the financial structure is based on the phenomenon of lending. The credit system, on the other hand, is a product of capitalist production and money circulation (Brunhoff, 2009).

Monetary analysis is done on the basis of social reality. Capital and financial capital analysis can only be meaningful after monetary analysis in terms of social reality and ways of knowing. Karl Marx also analyzes the concept of capital as a social reality and a form of relationship. Thus, it continues to open new windows and introduces the more concrete forms of relations, capital relations and different forms of capital, and the relations between these forms. In short, Marx tried to determine the characteristics that define the capitalist system by making a holistic analysis of social reality in an abstract and theoretical context with a certain systematic method. Therefore, Marx analyzes money in establishing its relations with the basic concepts that define capitalist society such as commodity, labor, and value, and moreover, through these relations (Ercan, 1997).

The Marxist analysis of monetary and financial instability emphasizes three points. First, the roots of capitalist monetary and financial instability must be sought within the capitalist accumulation process, not just in market transactions or the influence of authorities on these transactions. Second, the nature of monetary and financial instability has historically been complex and volatile. The developed markets of the pre-capitalist era, permeated with credit relations, inevitably carried with them elements of monetary and financial instability. Third, critical analysis of competing theories in their appropriate historical contexts is also important for the development of theories of money and finance. Many problems related to money and finance have been the subject of constant debate among economists of different schools of thought since the early 18th century (Itoh & Lapavistas, 2012, s. 10-11).

Lenin defined Imperialism as the monopoly stage of capitalism. According to Lenin, this situation has five main features. The first is that the concentration of production and the capital created reaches the stage where monopolies play a decisive role in the economic field. The second is the merger of bank capital with industrial capital and the formation of a financial oligarchy on the basis of finance capital. The third is the export of capital, which is becoming more important and distinct from the export of goods. The fourth is the emergence of international capitalist monopolies dividing the world among themselves. Fifth is the division of the entire world between the major capitalist powers. Lenin argues that the first stage of the road to imperialism is free competition. Then, after the transfer of economic power from the industrialists to the big banks and financial organizations, imperialism comes as the last stage of capitalism. Lenin states that there will be no stability at the stage when the export of financial capital is seen rather than the export of industrial products. According to Lenin, the imperialist capitalist system spreads through two structures, production, and finance. These structures create international dependency and facilitate exploitation (Erdağ, 2009, s. 41-42).

The Marxist approach is at the forefront of critical approaches to the theory and practice of neoliberal financial liberalization. Neoliberal financial liberalization policies deepen financial globalization. Increasing international capital flows leads to an increase in global liquidity and thus facilitates access to funds needed on a global scale. Along with the opportunities offered by the financial liberalization process, it brings with it more specialized global market players. However, when the system signals a crisis or financial failure, a slowdown, a sudden stop or a reversal occurs in international capital flows, and the large-volume capital flight starts. Large-volume and volatile international capital flows inflows or outflows are one of the important sources of macroeconomic and financial instability in peripheral countries. Capital controls policies, which are seen as a measure that can prevent the losses of international capital flows and manage the volume and volatility of capital flight, can not correct the basic fragility of the system, even if it gives effective results in some cases, but can reduce the intensity of economic and financial crises. Capital flow forms such as foreign direct investments or portfolio investments, which have grown in volume as a result of financial liberalization policies, can replace debt after the debt crisis in the peripheral countries. The reason for this situation is that neoliberal financial liberalization policies make peripheral economies prone to financial crises and at the same time force them to enter a deflation environment. This environment affects economic growth and development (human development) negatively. One of the most important consequences of this environment is that it causes the seizure of national economic and financial assets by foreigners at bargain prices (Chandrasekhar, 2005, s. 298-319).

One of the most important contributions of Marxist ideology is to place economic problems at the center of political life. While liberal ideology does not care about the issue of economic distribution, nationalist ideology cares about the international distribution of wealth. On the other hand, Marxist ideology focused on internal and external factors affecting the market economy in the distribution of wealth. They drew attention to the rules and regimes governing trade, investment, and other economic relations that are effective in the distribution of wealth among groups and societies in general (Cohen, 1977, s. 49). Another contribution of Marxism is its emphasis on the nature and nature of the division of labor on a local and global scale. According to this, every division of labor brings with it a sense of commitment and naturally a political relationship (Marx & Engels, 1947). Marxist ideology is also important in its focus on international political change. While Nationalist and Liberal approaches could not develop a comprehensive theory of social change, the Marxist approach emphasized economic and technological developments in explaining the dynamics of the international system (Gilpin, 2017).

4. Conclusion

Economic policies are designed on the basis of economic theories which are produced in an ideological atmosphere. This also applies to policies designed and implemented on a cost-benefit basis in the macro plan for international capital flows. In this study, the ideological foundations of economic policies towards international capital flows are evaluated in the context of international political economy. The disciplinary framework of this study International Political Economy (IPE), investigates the interaction of states and markets on a global scale. IPE is important in terms of handling the international finance structure from a holistic perspective within various global economic-political structures. The evaluation is limited to the current forms of Mercantilism, Liberalism, and Marxism, which are the main theoretical approaches of the IPE. Current forms of IPE's theoretical approaches can basically be classified as Neo-Mercantilism, Neo-liberalism, and Neo-Marxism. The theoretical arguments of these three approaches are quite different from each other. The neo-Mercantilist approach is a state-centered perspective that sees the economy as a tool of policy, prioritizes protectionist policies, and adopts state intervention. The neo-liberalism approach is a market-centered perspective that sees politics as a tool of the economy, but prioritizes the independence of the economy, does not accept or advocates minimum state intervention, and advocates the liberalization of international trade and capital. The neo-Marxist approach, on the other hand, is a structure-centered holistic world view that focuses on the efficiency of the economy within the framework of structural analysis, assuming that economy and politics are interdependent. As a result of the evaluation, it is concluded that the economic policies towards international capital flows can be classified as periodic financial pressure and financial liberalization, and the state-centered Mercantilist approach considers free capital flows as a threat to economic stability, the Individual-centered Liberal approach proposes the full free movement of capital between states through financial liberalization processes, and the Marxist approach, which is based on social class, predicts that capital controls can reduce the intensity of crises while not correcting the basic fragility of the system.

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CHAPTER 8

**THE RELATIONSHIP BETWEEN CIVIL
AVIATION, RENEWABLE ENERGY
CONSUMPTION, ECONOMIC GROWTH
AND CO₂ EMISSIONS: THE CASE OF SUB-
SAHARAN AFRICAN COUNTRIES**

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1. INTRODUCTION

The transportation system is seen as a complement to all production activities in the world. Therefore, its importance for the countries of the world is too great to be discussed. The significance of the air transport sector, which is an important sub-sector of the transport sector, is increasing day by day. Air transport has provided humanity with new possibilities, reduced distances by increasing speed, and freed people from the limitations of the wheel by removing geographical barriers. Air transport, which is considered as a system today, makes itself felt especially in tourism, economy and service sectors. Airline transportation is accepted as the transportation system that is the most developed, attracts the most attention and uses modern technology as well. Air transport service forms the basis of the economic and socio-cultural structure in a society, affects the efficiency of all economic activities in that society and the quality of life of people. Air transportation, which is one of the most contributing factors to the development of modern societies, makes the world smaller and brings countries and people closer to each other in every aspect, and contributes to the development of the world economy by facilitating the interaction between countries and international economic activities.

In the process of globalization, national borders in economic, political, social and cultural areas are gradually disappearing, as a result of this, the world is getting smaller, people and states are getting closer to each other in economic, political and social areas, and the interdependence between them is increasing. On the other hand, the rapid developments in transportation, communication and information processing technologies in recent years increase the interaction between people and spread it to a global scale by removing geographical barriers. Considering the mentioned effects of the globalization process, it is inevitable that the airline business will have significant effects on the environmental elements, the airline transportation sector and the airline business. In addition, the fact that air transport activities are concentrated in the international arena increases these effects.

Nowadays, environmental pollution has become a significant phenomenon. This process naturally affects the airline transportation industry, as it affects other sectors. Environmental pollution process creates crucial effects on the environmental elements of the airline, especially on passengers. For the most part of passengers would like to travel from unexpected parts of the world to unexpected places in the season, month, day, hour and frequency they want. Thus, the capacity of civil aviation increases due to demand of passengers. In other words, the tariff-based components of airline service delivery have become more important than other demand determinants. The effects of the environmental pollution process on the

air transport sector, the airline business and its environment require airline companies to carry more and more global characteristics. The success of airline companies, especially operating in the international arena, is increasingly dependent on their global characteristics. The method used by airline companies to fulfill their requirements of being a global airline is to cooperate with other airline companies in terms of environmental pollution. Actually, it can be expressed that one of the most important result of the environmental pollution process in the air transport sector is insensitive managers.

In addition to economic and commercial developments, developments in the field of technology have increased the demand for air transport and this has led to the development of air transport. Thus, air transportation has become a transportation system that has a different importance and feature from other transportation systems with its administrative staff, expert personnel, airports, navigation systems and services provided on the ground.

It is seen that the civil aviation sector grew by double digits in the period until 1973. The embargo imposed by oil exporting countries after the Yom Kippur war between Arab countries and Israel caused a serious increase in oil and product prices all over the world. Naturally, fuel expenses in total cost for airline companies have increased. This situation led to a decrease in the profitability of airline companies and a decrease in the number of passengers. Therefore, the aviation industry has been significantly affected by this. It has come to the fore that International Civil Aviation Organization should take measures against the negative developments in the sector. Increasing controls on ticket prices and developing regulatory criteria for capacities are among the developments experienced in this period (Freer, 1994). Although air transport has tended to decrease from time to time as a result of various crises in the transportation sector, it has become a sector where demand increases from year to year by people, contributes to its speed and reliability. When the International Civil Aviation Organization (ICAO, 2022) data is analyzed, the number of passengers carried on scheduled flights reached 4.5 billion and the number of aircraft taking off reached 38.3 million in 2019. There has been a 60% decrease in passenger basis worldwide due to the COVID-19 pandemic that started in 2020 (DHMI, 2021).

Two of the important problems that the world is currently facing in terms of energy and energy use are the rapid depletion of existing energy resources and the current use of these energy resources has very serious damages to the environment, ecology and the world. When such a hazard in energy resources was unknown or little known, costs and affordability were not as important to the industry as they are now. It was mostly fo-

cused on issues such as technological development and increasing production. As the danger became more widely known (oil crisis era), the careful use of energy gradually became the main focus of attention in the industry. With the emergence of environmental problems, meticulous optimization studies between economy and environment have become inevitable.

Aviation, which accounts for 2-5% of the world's energy consumption, is a constantly developing industry. It is estimated that there are 16,800 jet aircraft in terms of transportation today, and this number is expected to double to 35,300 in 2024. In addition, passenger traffic is increasing at a rate of 4.8% every year. All these activities lead to huge amounts of burnt gas emissions and contrail formations, especially in the upper troposphere and lower stratosphere layers of the atmosphere, but also mostly in the northern hemisphere. The effects of aviation on the atmosphere and the environment can be grouped under three main headings in terms of emissions. These can be listed as greenhouse gases H₂O, CO₂ and NO_x (Koroneos et al., 2005).

It is clear that the deterioration of the CO₂ balance carries great risks for the environment, both due to its effective role in global warming and its very long time in the atmosphere. It is estimated that 0.14 Gt of CO₂ was produced by aircraft in 1992. This value constitutes 2% of the total anthropogenic CO₂ production and 13% of the total transportation activities in the same year. Like carbon dioxide, water vapor is an inevitable post-combustion product and a greenhouse gas. Most flight activities take place in the troposphere, where water vapor emissions at these altitudes return to the earth in the form of precipitation within 1-2 weeks. However, the water vapor that emerges during the flights in the stratosphere layers collects over time and creates high-density regions. This both contributes to global warming and negatively affects the ozone layer either directly or indirectly. NO_x, on the other hand, is a gas whose production can be reduced with suitable combustion conditions and combustion chamber technologies, unlike water vapor and carbon dioxide. Reducing the end-of-combustion temperatures, not using more air than the stoichiometric ratio, and reducing the occurrence time of combustion are some of the measures that can reduce NO_x emissions to low levels. The effect of NO_x on the environment can be examined in two parts, the troposphere and stratosphere layers of the atmosphere. NO_x emissions in the troposphere increase the amount of ozone there. However, ozone in the troposphere creates a harmful situation for human health and especially for the immune system. However, in the stratosphere, there is ozone destruction of NO_x, which is a negative situation for the ozone layer, which is an indispensable protector for ultraviolet rays. Considering these emissions, it is seen that aviation has harmful effects on the atmosphere and the environment. In addition, aviation has negative

effects on the economy. For these reasons, some analyzes should be applied in order to reduce these harmful effects by considering the fuel types of aircraft engines used in aviation. In this context, especially exergy and exergoeconomic analyzes are so vital to determine harmful impacts. These analyzes are widely applied to every field today (Rosen and Dincer, 2003).

Airports are among the areas of the world that consume energy and whose carbon footprint should be taken into account. However, it is important to examine the energy consumption in the world and the amount of renewable energy production beforehand. According to the data of the United Nations Statistics Department, the highest energy consumption in the world is realized in the G8 countries. These include China, India and Iran, respectively. Developing countries and the G8 countries are the USA, Japan, Germany, England, France, Italy, Canada and Russia. In 2007, it consumes 39% of the total world consumption, which corresponds to approximately 10 billion tons of oil. In addition, the USA and China, which are the first two countries in consumption, consume 40% of this consumption together. The G8 emission value, which was 39% in 2007, increased to 52% in 2014. In order to better evaluate this size, the ratio of renewable energy production to total energy consumption of the first 11 countries will be important. This value comes to 13%. If we calculate the rate of use of fossil fuels in order to understand the magnitudes well, 890 million tons of approximately 6.8 billion tons of oil equivalent energy is not renewable. Under a program carried out by IATA, which is the union of airlines, studies are carried out for airlines to create lower carbon emissions or to limit carbon emissions. The name of this program created for airlines is the Carbon Offset Program. With this study, the International Air Transportation Association (IATA - International Air Transport Association) has accepted that it is not possible to carry out long-distance flights with low carbon emissions. However, projects such as energy efficiency, methane production, renewable energy investments, and reduction of hydro-fluorocarbon components are being worked on for carbon balancing with their proposals (United Nations, 2020).

Sub-Saharan African Countries consist of 50 countries including Angola, Benin, Botswana, Burkina Faso, Burundi, Cameroon, Cape Verde, Central African Rep., Chad, Comoros, Congo Dem. Rep., Congo Rep., Côte d'Ivoire, Djibouti, Eritrea, Eswatini, Ethiopia, Gabon, Gambia, Ghana, Guinea, Guinea Equatorial, Guinea-Bissau, Kenya, Lesotho, Liberia, Madagascar, Malawi, Mali, Mauritania, Mauritius, Mayotte, Mozambique, Namibia, Niger, Nigeria, Rwanda, São Tomé and Príncipe, Senegal, Seychelles, Sierra Leone, Somalia, South Africa, South Sudan, Sudan, Tanzania, Togo, Uganda, Zambia, Zimbabwe. In this book chapter, the effects of independent variables on CO₂ emissions is discussed includ-

ing renewable energy consumption instead of H₂O and NO_x for Sub-Saharan African Countries. In this sense, the major goal of this book chapter is to investigate the relationship among civil aviation, renewable energy consumption, economic growth (GDP) and CO₂ emissions from 1990 to 2019 for Sub-Saharan African countries through Johansen co-integration, impulse response, variance decomposition, Engle-Granger co-integration, Phillips-Ouliaris co-integration tests, and CCR, FMOLS analysis by providing some recommendations to policy makers in terms of how to solve the environmental problems.

2. LITERATURE REVIEW

The potential value of the airplane is not just going ‘anywhere’; it will increase by enabling people to get to a pre-planned ‘place’ - where they want to go - quickly, believably, reliably and safely. This thesis of Douglas (1996) dealt in detail with the political, economic and technological forces in the formation of the modern airport. Aviation; in the 20th century, countries have been shaped both economically, politically and socially, and the country has been shaped by air transportation. Aviation and aircraft is an embodied representative of modernity. The increasing trade volume in the globalizing world has made the transportation sector one of the most important factors of the world economy today. The most advanced stage that transportation has reached is indisputably air transportation. Air transportation has become one of the most important transportation types in mass transportation with the comfort, speed and safety it provides. The transport method can be a natural or artificially developed method. Natural routes are sea and air transport, which do not require any maintenance or regulation to use. Both modes of transport can be developed artificially. However, transportation costs are quite high per person and goods transported. Airline companies pay airport and landing - departure fees including continuous maintenance, repair, etc. of aircraft at airports.

The fees they pay to have support units cause an increase in the cost of the transported cargo. Although it is an expensive transportation system, air transportation is one of the most preferred transportation systems, just like sea transportation, because it provides transportation on time and without damaging the goods without encountering problems such as traffic jams. Of course, as in every transportation system, there are some risks in this system. Air transport is a sector that undergoes rapid technological and structural changes. On the one hand, new generation aircraft with large capacity, fuel saving, low noise and emission levels are being developed, on the other hand, the production of small-capacity aircraft, which are more suitable for regional transportation, continues rapidly. In addition, the transformation of the sector into a more commercial structure through liberalization and privatization and the formation of collabora-

tions have changed the structure of the sector, resulting in a market structure dominated by consumers. Privatization practices, which are among these structural changes, are widely adopted and implemented in many developed and developing countries today.

Deregulations made in the airline industry to make the market more liberal have caused new airline companies to operate and a tight competition among airline companies. This situation also caused the problem of overcapacity for airline companies (Doganis, 2013). In addition, fixed costs in the airline industry are quite high, but marginal costs remain very low (Wensveen, 2018). The main reason for this is that airline companies provide services as a whole and the cost of an extra passenger to the company remains at a very low level.

Apart from trade liberalization and cargo dimension in air transport, there are several academic works in the literature related to the linkage among economic growth and CO₂ emissions within the framework environmental economics. Notably, in studies on the verifying of the energy usage and economic growth make connection among the main variables affecting environmental degradation. In the contemporary academic literature, it is determined that there are quite a lot of studies testing the incremental environmental change in lots of countries with regards to different components. In this respect, some of these researches dispute the nexus between environmental decomposition and economic growth by analyzing the many hypotheses. Majority of researches including Dursun, (2022a); Dursun, (2022b); Egilmez (2020); Kalayci and Yanginlar (2016); Kalayci and Yazici (2016); Kalayci and Özden (2021); Kalayci and Koksal (2015); Sarigul and Apak (2022); and Yazici (2022) have tested the validity of the several environmental hypothesis.

When the energy-consuming factors in the airport campus are examined, it is understood that they are shaped as follows.

- * With aircraft movements,
- * With ground services given to aircraft,
- * With energy consumption in passenger terminals and buildings,
- * With energy consumption in service buildings,
- * With energy consumption in administrative buildings,
- * Depending on passenger movements,

For this reason, it is necessary to determine the initial source in order to calculate all these factors. Of course, the reason for the establishment of the entire airport campus is the issue of traveling due to tourism, business or passenger requests that create aircraft mobility as a center. Although it is

certain that passenger demand is the basis of any investment or movement, the number of planes and the amount of passengers are functions of each other. However, this function is always in a position to change due to the important location of the airport, components such as economy and tourism. In this sense, it will be necessary to calculate on the basis of aircraft movements, which are considered to be the most energy-intensive. However, even if the calculation is based on this number of aircraft, some detailed calculations should be made depending on the number of passengers and daily usage. For this reason, the number of passengers and their effects should be carefully examined. Aircraft occupancy or passenger density parameters can be used to reach this number. However, the dependence of mobility within the airport must be examined for computation.

The stages of preparation for the service can be considered as cleaning services in the aircraft, fueling the aircraft, receiving food and catering services, and line maintenance services. These calculations will enable the completion of the calculations based on aircraft movements within the campus. For the other parts of the calculations, it is necessary to look at the number of passengers and the energy consumption on a daily basis. Another energy consumption point within the airport campus can be listed as the electrical needs of heating, cooling, lighting, automation, informatics and other services in the buildings where the passengers pass and the personnel providing the necessary service to these passengers.

Heating and cooling needs in buildings can be called thermal comfort. This need for comfort can be considered as conditions where the passengers do not feel cold or sweaty, the air flow is not very fast inside, and the humidification conditions are ideal. In order to provide such an environment, an environmental impact may occur for the energy consumed or the energy desired to be spent. One of the values that should be taken into account when calculating the thermal requirement is the calculation of how much cooling or heating the environment is located in. One of the most important factors for this is the average of the outdoor temperatures. This can be thought of as the geographical region coefficient. Instead of making all these calculations, an inference can be made by asking the installed power of the airport and calculating the frequency and duration of use in terms of airport working hours and operation.

Studies examining the relationship between air transport and economic activities have also been carried out in the literature. For example, Ishutkina and Hansman (2008) examined the relationship between air transport and economic activities in four different countries (United Arab Emirates, Jamaica, China and India). In addition to this, it is seen that many studies have been conducted to examine the relationship between economic growth and air transportation econometrically. For example; Chi and Baek

(2013) found the dynamic directional relationship between airline demand and economic growth in the USA, Hakim and Merkert (2016) the causality relationship between economic growth and airline transportation in South Asia. They empirically discussed the relationship between passenger traffic and economic growth. Baker et al.(2015) examined the long-run relationship and causality between regional airline transportation and economic growth in Australia.

The employment creation potential of aviation and its contribution to economic growth can be considered as its main economic benefits. Especially in developing countries with closed economic structure, aviation contributes more to development. It is thought that air transport has important contributions to the open economy by establishing connections between countries with different levels of development, relocating investments between countries and triggering international trade. It is thought that the air transport industry directly or indirectly contributes to many sectors. In addition, it is seen that there is a catalyst (accelerator) effect in some areas. While air transportation generally contributes directly to the suppliers and manufacturers of the sector; it also indirectly contributes to the provision of tourism, trade, investment, employment, technology and market efficiency (Upham et al., 2004).

According to Vasigh et al., (2008), other determinants of airline supply are the changes in technology, competitive environment, deregulation, bilateral agreements and legal changes. The main determinants of supply in the airline sector are the price and the price levels of the fees demanded for aircraft, fuel, maintenance, labor and landing and take-off services that constitute a resource for this sector. All these factors have an impact on airline supply because they affect production costs as well.

Erraitab (2016) analyzed the airline demand in Morocco econometrically. Within the scope of the study, GDP, export-import data, consumption expenditures, CPI, foreign direct investment, flight frequency and international tourism data were used to measure airline demand. The findings of the study revealed that the model that included the variables of CPI, GDP, GDP per capita and the number of incoming tourists was the most appropriate.

Abed et al., (2001) empirically examined the factors that determine international airline demand in Saudi Arabia. Multiple regression analysis was used in the study, in which the 1971-1992 period data were used. In addition to demographic and economic variables, it is seen that many variables related to oil prices are used within the scope of the study. The results of the study showed that the most appropriate model for measuring demand is the model in which total expenditure and population data are included.

Aderamo (2010) developed an econometric model to measure airline demand in Nigeria. In the study examining the 1975-2006 period, three different dependent variables (passenger kilometer, aircraft kilometer and cargo-ton kilometer) were used to measure the demand for air transportation. The independent variables of the study are federal government expenditures, manufacturing index, gross domestic product data, energy consumption index, agricultural production index, consumer price index, electricity consumption index, mineral production index and inflation rate. The empirical findings of the study reveal that agricultural production index, manufacturing industry index, gross domestic product, inflation rate and consumer price index are important indicators in explaining air transport demand in Nigeria.

3. METHODOLOGY AND DATA ANALYSIS

The major aim of this book chapter is to examine the nexus among civil aviation, renewable energy consumption, economic growth (GDP) and CO₂ emissions from 1990 to 2019 for Sub-Saharan African countries through Johansen co-integration, impulse response, variance decomposition, Engle-Granger co-integration, Phillips-Ouliaris co-integration tests, and CCR, FMOLS analysis by providing some recommendations to policy makers in terms of how to solve the environmental problems. In this context, (PP) Phillips-Perron, Augmented Dickey-Fuller (ADF), Johansen co-integration test, VAR analysis, impulse response, variance decomposition, Engle-Granger co-integration test, Phillips-Ouliaris Co-integration test, Jarque-Bera Normality test, Cusum test, CCR, and FMOLS analysis are employed in order to comprehend the long-run relationship among the variables. Civil aviation, CO₂ emissions, economic growth and renewable energy consumption's data is retrieved from World Bank's (2022a), World Bank's (2022b), World Bank's (2022c) and World Bank's (2022d) official website respectively. The empirical findings of econometric analysis of this book chapter reveal the long-term relationship among the relevant variables containing civil aviation, economic growth, renewable energy consumption, and CO₂ emissions from 1990 to 2019 for Sub-Saharan African countries.

Table 1. Phillips–Perron Unit Root Test Results for Sub-Saharan African Countries at $I(0)$

Null Hypothesis: CIVIL_AVIATION has a unit root			
Exo: Cons			
Bndwdth: 15 (Newey-West) - Bartlett kernel			
		<u>Adj. t-Stat</u>	<u>Prb</u>
PP test stat		1.841366	1.0000
Crit val:	1% lev	-3.679322	
	5% lev	-2.967767	
	10% lev	-2.622989	
Null Hypothesis: CO2 has a unit root			
Exo: Cons			
Bndwdth: 16 (Newey-West) - Bartlett kernel			
		<u>Adj. t-Stat</u>	<u>Prb</u>
PP test stat		0.77791	0.9918
Crit val:	1% lev	-3.679322	
	5% lev	-2.967767	
	10% lev	-2.622989	
Null Hypothesis: GDP has a unit root			
Exo: Cons			
Bndwdth: 3 (Newey-West) - Bartlett kernel			
		<u>Adj. t-Stat</u>	<u>Prb</u>
PP test stat		-0.660275	0.8414
Crit val:	1% lev	-3.679322	
	5% lev	-2.967767	
	10% lev	-2.622989	
Null Hypothesis: REENERGY_CONS has a unit root			
Exo: Cons			
Bndwdth: 4 (Newey-West) - Bartlett kernel			
		<u>Adj. t-Stat</u>	<u>Prb</u>
PP test stat		-0.123988	0.9376
Crit val:	1% lev	-3.679322	
	5% lev	-2.967767	
	10% lev	-2.622989	

There are two ways to convert a non-stationary series to a stationary one. The first is to reduce the series and thus remove the deterministic trend. The non-stationary series that can be made stationary in this way are called trend stationary time series.

The second solution to the non-stationary problem is to take the difference of the series. Such series are first-order differenced and stationary variables. The most common approach to this type of research is to perform unit root tests, and in the following sections, unit root tests that are traditionally used for empirical studies are discussed.

After considering the theoretical dimension of the PP and ADF unit root tests, the above $I(0)$ level (undifferentiated series) tests were applied. The data of all 50 Sub-Saharan African countries indicated that all series are not stationary in Table 1.

Empirical findings of all relevant series demonstrated that the p-value is above 0.05, indicating that the series are not stationary for all Sub-Saharan Africa countries. The p-value of civil aviation is 1.0000, the p-value of CO₂ emissions is 0.9918, the p-value of GDP is 0.8414, and the p-value of renewable energy consumption is 0.9376 in Table 1 above.

Table 2. *Phillips–Perron Unit Root Test Results for Sub-Saharan African Countries at $I(1)$*

Null Hypothesis: CIVIL_AVIATION1 has a unit root			
Exo: Cons			
Bndwidth: 3 (Newey-West) - Bartlett kernel			
		<u>Adj. t-Stat</u>	<u>Prb</u>
PP test stat		-3.921071	0.0057
Crit val:	1% lev	-3.689194	
	5% lev	-2.971853	
	10% lev	-2.625121	
Null Hypothesis: CO21 has a unit root			
Exo: Cons			
Bndwidth: 14 (Newey-West) - Bartlett kernel			
		<u>Adj. t-Stat</u>	<u>Prb</u>
PP test stat		-8.694299	0.0000
Crit val:	1% lev	-3.689194	
	5% lev	-2.971853	
	10% lev	-2.625121	
Null Hypothesis: GDP1 has a unit root			
Exo: Cons			
Bndwidth: 3 (Newey-West) - Bartlett kernel			
		<u>Adj. t-Stat</u>	<u>Prb</u>
PP test stat		-3.378859	0.0206
Crit val:	1% lev	-3.689194	
	5% lev	-2.971853	
	10% lev	-2.625121	
Null Hypothesis: REENERGY_CONS1 has a unit root			
Exo: Cons			
Bndwidth: 3 (Newey-West) - Bartlett kernel			
		<u>Adj. t-Stat</u>	<u>Prb</u>
PP test stat		-8.739956	0.0000
Crit val:	1% lev	-3.699871	
	5% lev	-2.976263	
	10% lev	-2.627420	

In addition, desired state for the data to be stationary is that the top number is greater than the lower digit when the absolute values of the t-statistics and the numbers corresponding to 5 percent are considered. In this sense, the t-statistics of civil aviation is 1.841366 which smaller than -2.96 as absolute value of number is assumed. The remaining of statistics is similar which indicates that series are not stationary. Thus, the first-order differences of the data are taken and the unit root test was performed again at Table 2.

Table 3. *Augmented Dickey–Fuller Unit Root Test Results for Sub-Saharan African Countries at I(0)*

Null Hypothesis: CIVIL_AVIATION has a unit root		
Exo: Cons		
Lag Length: 0 (Based on SIC, maxlag=7)		
	t-Stat	Prb
ADF test stat	2.332566	0.9999
Crit val:	1% lev	-3.679322
	5% lev	-2.967767
	10% lev	-2.622989
Null Hypothesis: CO2 has a unit root		
Exo: Cons		
Lag Length: 0 (Based on SIC, maxlag=7)		
	t-Stat	Prb
ADF test stat	0.042480	0.9552
Crit val:	1% lev	-3.679322
	5% lev	-2.967767
	10% lev	-2.622989
Null Hypothesis: GDP has a unit root		
Exo: Cons		
Lag Length: 1 (Based on SIC, maxlag=7)		
	t-Stat	Prb
ADF test stat	-0.777298	0.8101
Crit val:	1% lev	-3.689194
	5% lev	-2.971853
	10% lev	-2.625121
Null Hypothesis: REENERGY_CONS has a unit root		
Exo: Cons		
Lag Length: 2 (Based on SIC, maxlag=7)		
	t-Stat	Prb
ADF test stat	-1.574816	0.4813
Crit val:	1% lev	-3.699871
	5% lev	-2.976263
	10% lev	-2.627420

Table 2. shows first-order differences of the series. After taking the first-order differences of the series, PP unit root test is performed again. Obtained empirical results indicate that the series become stationary after first-order differences are taken. The p-value of civil aviation is 0.0057, the p-value of CO₂ emissions is 0.0000, the p-value of GDP is 0.0206, and the p-value of renewable energy consumption is 0.0000. Besides, desired state for the data to be stationary is that the top number is greater than the lower digit when the absolute values of the t-statistics and the numbers corresponding to 5 percent are considered. In this sense, the t-statistics of civil aviation is -3.921071 which bigger than -2.96 as absolute value of number is assumed. Thus, all co-integration tests can now be performed since the first-order differenced series are stationary. In order to verify the stationarity tests, apart from the PP unit root test, the ADF unit root tests were also performed for 4 variables at Table 3. and Table 4. The data of all 50 Sub-Saharan African countries indicated that all series are not stationary in Table 3. Empirical results of all series indicated that the p-value is above 0.05, demonstrating that the series are not stationary. The p-value of civil aviation is 0.9999, the p-value of CO₂ emissions is 0.9552, the p-value of GDP is 0.8101, and the p-value of renewable energy consumption is 0.4813 in Table 3 above. On the other hand, desired state for the data to be stationary is that the top number is greater than the lower digit when the absolute values of the t-statistics and the numbers corresponding to 5 percent are considered. In this respect, the t-statistics of civil aviation is 2.332566 which smaller than -2.96 as absolute value of number is assumed. The remaining of statistics is similar which demonstrates that series are not stationary. Therefore, the first-order differences of the data are taken and the unit root test was performed again at Table 4 below.

Table 4. *Augmented Dickey–Fuller Unit Root Test Results for Sub-Saharan African Countries at I(1)*

Null Hypothesis: CIVIL_AVIATION1 has a unit root		
Exo: Cons		
Lag Length: 0 (Based on SIC, maxlag=6)		
	t-Stat	Prb
ADF test stat	-3.973862	0.0050
Crit val:	1% lev	-3.689194
	5% lev	-2.971853
	10% lev	-2.625121
Null Hypothesis: CO21 has a unit root		
Exo: Cons		
Lag Length: 0 (Based on SIC, maxlag=6)		
	t-Stat	Prb
ADF test stat	-6.618833	0.0000
Crit val:	1% lev	-3.689194

	5% lev	-2.971853	
	10% lev	-2.625121	
Null Hypothesis: GDP1 has a unit root			
Exo: Cons			
Lag Length: 0 (Based on SIC, maxlag=6)			
		<u>t-Stat</u>	<u>Prb</u>
ADF test stat		-3.371766	0.0209
Crit val:	1% lev	-3.689194	
	5% lev	-2.971853	
	10% lev	-2.625121	
Null Hypothesis: REENERGY_CONS1 has a unit root			
Exo: Cons			
Lag Length: 0 (Based on SIC, maxlag=6)			
		<u>t-Stat</u>	<u>Prb</u>
ADF test stat		-9.135159	0.0000
Crit val:	1% lev	-3.699871	
	5% lev	-2.976263	
	10% lev	-2.627420	

Table 4. indicates first-order differences of the series from 1990 to 2019 for Sub-Saharan African countries. After taking the first-order differences of the series, ADF unit root test is employed again. Obtained empirical findings demonstrate that the series become stationary after first-order differences are taken. The p-value of civil aviation is 0.0050, the p-value of CO₂ emissions is 0.0000, the p-value of GDP is 0.0209, and the p-value of renewable energy consumption is 0.0000. Furthermore, desired state for the data to be stationary is that the top number is greater than the lower digit when the absolute values of the t-statistics and the numbers corresponding to 5 percent are considered. Thus, the t-statistics of civil aviation is -3.973862 which bigger than -2.97 as absolute value of number is assumed. Likewise, when the first-order differences of the other series are taken into account, it is seen that the t-statistics results are higher than the figure corresponding to 5 percent. This is another proof that the rest of series are stationary as well. Consequently, all co-integration tests can now be performed since the first-order differenced series are stationary. After indicating the stationarity of the all series including civil aviation, CO₂, GDP and renewable energy consumption between 1990 and 2019 for Sub-Saharan African countries, the Johansen co-integration test is conducted to discuss the long-term relationship between the variables in Table 5 below. Obtained empirical findings have proven that there is a long-term relationship between variables. Statistically significant findings were obtained by determining the p-values of all variables below 0.05. In this context, the p-value of civil aviation is 0.0337, the p-value of CO₂ is 0.0355, the p-value of GDP is 0.0205, and the p-value of renewable energy consumption is 0.0258.

Table 5. *Johansen Co-integration Test for Sub-Saharan African Countries*

Sample (adj): 1993 2019				
Inclnd obser: 27 after adjust				
Trend assumpt: Linear deter trend				
Series: CIVIL_AVIATION1 CO21 GDP1 REENERGY_CONS1				
Lags inter: (in first differences): 1 to 1				
Unrestricted Cointegration Rank Test				
Hypot	Eigenval	Trace Stat	0.05 Crit Val	Pro.**
r=0	0.624073	49.63433	47.85613	0.0337
r=1, r=>1	0.412905	23.21863	29.79707	0.0355
r=2, r=>2	0.238940	8.839256	15.49471	0.0205
r=3, r=>3	0.052887	1.467098	3.841466	0.0258
Trace test demonstrates 1 co-integrating eqn(s) at the 0.05 lev				
* indicates reject of the hypot at the 0.05 lev				
**MacKinnon-Haug-Michelis (1999) p-val				

The Vector Auto Regressive (VAR) analysis must be stationary before the impulse response and variance decomposition tests are performed. When Figure 1 below is examined, it is seen that the VAR analysis is stationary. The VAR model is used to analyze the trend of four variables in detail. Civil aviation, CO₂, GDP and renewable energy consumption are determined as internal variables and lag-order is calculated. According to the suggestion of Serena and Perron (2001) the maximum lag length is determined as 2. Also, after applying the inverse roots of the characteristic polynomial, all the points of the root means remained in the circle. After determining the stationarity of the VAR, both impulse response and variance decomposition analysis are performed. The main purpose of applying impulse-response and variance decomposition analyzes is to determine which independent variable affects the dependent variable compared to the other independent variables.

Figure 1. *VAR Analysis of Sub-Saharan African Countries*

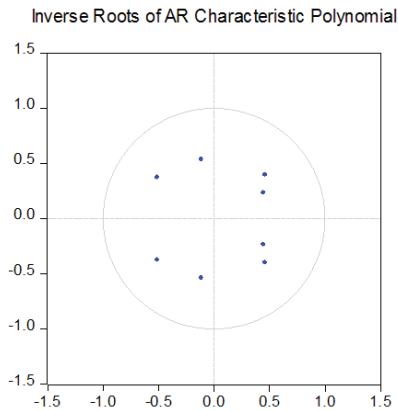
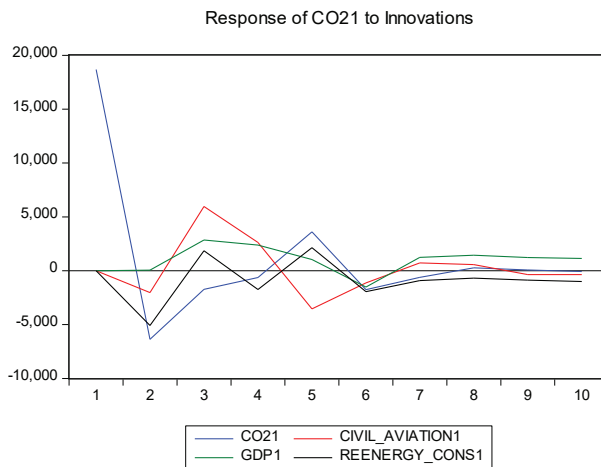


Figure 2. Impulse Response Analysis of Sub-Saharan African Countries
Response to Cholesky One S.D. (d.f. adjusted) Innovations



Considering the impulse-response analysis for Sub-Saharan African countries for the 1990-2019 periods above, it is seen that civil aviation affects CO₂ emissions as the most important element (Figure 2.). It is understood that civil aviation, shown in red, fluctuated considerably after the shock was applied. The second most important variable affecting CO₂ emissions after civil aviation is renewable energy consumption, which is shown in green. The variable that has the least impact on CO₂ emissions, shown in blue, is GDP, represented in green. In addition, in the variance decomposition analysis in Table 6., it is seen that the variable that affects CO₂ emissions the most is civil aviation with 11.41510. The results of impulse response and variance decomposition analyzes clearly overlap with each other.

Table 6. Variance Decomposition Analysis of Sub-Saharan African Countries

Period	S.E.	CO2I	CIVIL_ AVIATION1	GDP1	REENERGY_ CONS1
1	18679.35	100.0000	0.000000	0.000000	0.000000
2	20476.15	92.86964	0.975299	0.000695	6.154370
3	21665.31	83.59110	8.453938	1.725370	6.229590
4	22030.06	80.92676	9.589613	2.833660	6.649972
5	22727.81	78.55905	11.43172	2.872643	7.136585
6	22956.68	77.58765	11.44681	3.250478	7.715062
7	23028.04	77.17929	11.47441	3.522788	7.823517
8	23091.47	76.76954	11.47069	3.890614	7.869160
9	23143.47	76.42578	11.44380	4.155141	7.975273
10	23196.12	76.08040	11.41510	4.379076	8.125424

Table 7. Engle-Granger Co-integration Test for Sub-Saharan African Countries

Series: CO2I CIVIL_ AVIATION1 GDP1 REENERGY_ CONS1				
Sample (adj): 1991 2019				
Inc obsr: 29 after adj				
Null hypot: Series are not co-integrated				
Co-integrating equ deter: C				
Dependent	tau-stat	Pro	z-stat	Pro
CO2I	-6.298447	0.0013	-33.24989	0.0010
CIVIL_ AVIATION1	-5.361020	0.0096	-30.20783	0.0043
GDP1	-3.685340	0.0458	-19.47923	0.0389
REENERGY_ CONS1	-3.058299	0.0486	11.04489	0.0456

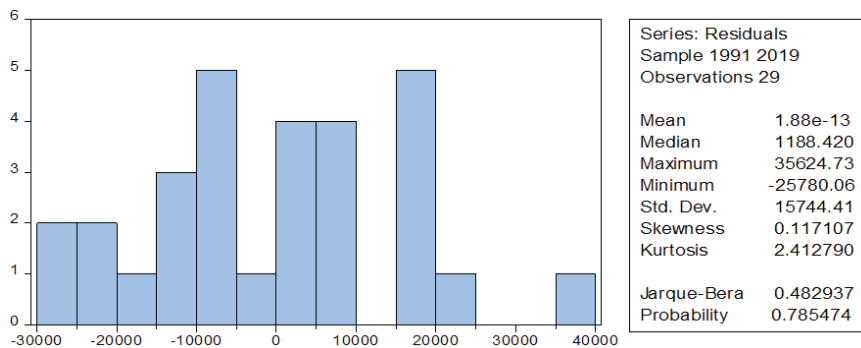
According to the Phillips and Ouliaris (1990) co-integration test findings provided in Table 8, both test statistical values, z and tau statistic for all variables are statistically important at 1 and 5% significance level. The long-term nexus of the analyses are clarified by the co-integration test of Engle-Granger and Phillips-Ouliaris for Sub-Saharan African countries at Tables 7 and 8. which is clearly overlap with Johansen co-integration test findings at Table 5. As can be seen from Tables 7 and 8, according to both Engle-Granger and Phillips Ouliaris co-integration test findings, it is determined that there is a long-run co-integration linkage among the series. Afterwards, at the next stage, it must be examined whether the analysis has econometric problems or not. Besides, it is confirmed whether the analysis has a normal distribution or not. For this, the entity of the normal distribution of the analysis is examined by performing the Jarque-Bera statistic. As seen in Figure 3, the Jarque – Bera statistic is “0.482937” and the p-value is “0.785474” since the probability value is >0.05 , the residuals

have a normal distribution. To sum up, Phillips Ouliaris and Engle-Granger co-integration tests are affirmed as statistically.

Table 8. *Phillips-Ouliaris Co-integration Test for Sub-Saharan African Countries*

Series: CO21 CIVIL_AVIATION1 GDP1 REENERGY_CONS1				
Sample (adj): 1991 2019				
Incobsr: 29 after adj				
Null hypot: Series are not co-integrated				
Cointeg eq deter: C				
No d.f. adj for var				
Dependent	tau-stat	Pro	z-stat	Pro
CO21	-6.547357	0.0008	-31.08029	0.0030
CIVIL_AVIATION1	-5.458903	0.0079	-29.75828	0.0053
GDP1	-3.839023	0.0457	-21.06891	0.0473
REENERGY_CONS1	-3.265383	0.0412	-22.95431	0.0490

Figure 3. *Jarque-Bera Normality Test for Sub-Saharan African Countries*



Cusum test is implemented to find out the stability of the series in the long-run. There are two analyze to examine the stability of parameters. The test is developed by three researchers (Brown et al., 1975). The Cusum test includes the cumulative sum of the recursive residuals. The Cusum test provides the pair of 5% critical lines at Figures 4. If the movement of expected value exceeded the critical line recommends instability. The results demonstrate that the movement is inside the 5% significance critical lines suggest that the coefficients are stable in the sample period.

Figure 4. *Cusum Test for Sub-Saharan African Countries*

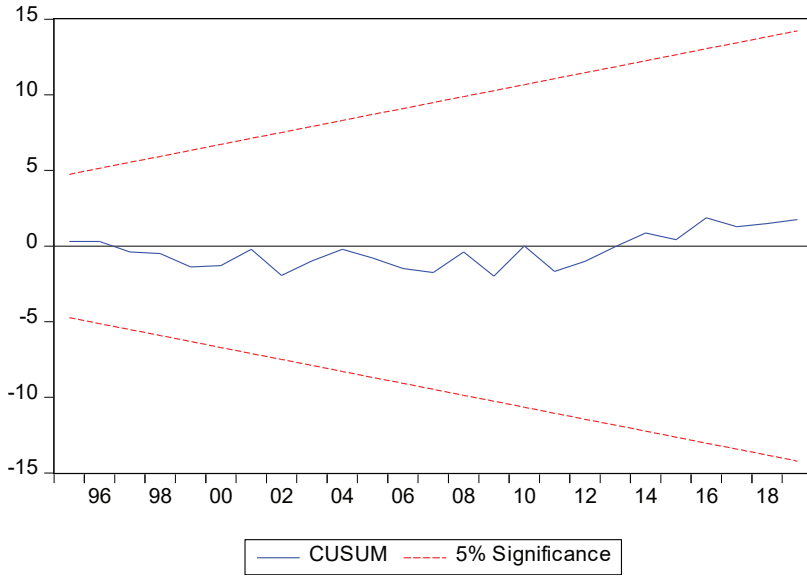


Table 9. CCR Analysis for Sub-Saharan African Countries

Canonical Co-integrating Regression				
Sample (adj): 1992 2019				
Incobsr: 28 after adj				
Cointegrating equ deter: C				
Long-term cov est (Bartlett kernel, Newey-West fixed bandwidth = 4.0000)				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
CIVIL_AVIATION1	0.000428	0.001666	0.256774	0.0195
GDP1	49.95242	41.15771	1.213683	0.0267
REENERGY_CONS1	-856.0341	2520.863	-0.339580	0.0371
C	12626.55	3190.284	3.957813	0.0006
R-squ	0.677733	Mean dep var		14768.39
Adj R-squ	0.674950	S.D. dep var		18228.54
S.E. of reg	17532.13	Sum squ resid		7.38E+09
Long-run var	1.76E+08			

Finally, CCR in Table 9 and FMOLS analyzes in Table 10 performed to determine the long-term relationship between variables. According to both models, a long-term relationship is determined between the variables. These findings are in clear agreement with the Johansen co-integration test in Table 5. When the p-values of the CCR analysis are examined in Table 9., it is seen that the variable that affects the CO₂ emissions the most is the civil aviation with 0.0195. On the other hand, looking at Table 10., it is determined that the variable that most affected CO₂ emissions is civil aviation with 0.0105. The results of both CCR and FMOLS tests clearly agree with the findings of impulse-response and variance decomposition analyses. Therefore, all econometric analyzes that have been made have confirmed each other and their checks have been made as well.

Table 10. FMOLS Analysis for Sub-Saharan African Countries

Fully Modified Least Squares				
Sample (adj): 1992 2019				
Incobsr: 28 after adj				
Cointegrating equ deter: C				
Long-term cov est (Bartlett kernel, Newey-West fixed bandwidth = 4.0000)				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
CIVIL_AVIATION1	-0.000399	0.001101	-0.362042	0.0105
GDP1	72.23446	28.83639	2.504976	0.0294

REENERGY_				
CONSI	398.3449	1583.438	0.251570	0.0335
C	12858.75	3018.059	4.260602	0.0003
R-squ	0.620681	Mean dep var		14768.39
Adj R-squ	0.623266	S.D. dep var		18228.54
S.E. of regr	17068.13	Sum squ resid		6.99E+09
Long-run var	1.76E+08			

4. CONCLUSION

Since the aviation sector operates on a global scale, it can be considered as a sector that is extremely sensitive to developments both at local and global. This sector is also one of the sectors most affected by the crises and wars in the country and abroad. In addition, it is seen that economic development, changes in purchasing power, economic reforms, legal changes and measures to be taken on environmental pollution can affect the sector positively or negatively. As a result, the obtained findings in the methodology part of the study demonstrate that there is a long-run relationship among Civil Aviation, Renewable Energy Consumption, Economic Growth and CO₂ Emissions from 1990 to 2019 for Sub-Saharan African Countries.

Transportation is one of the most important causes of air pollution. Recently, it has become a matter of great importance, as it directly affects not only environmental regulations, but also human health, which gases are released from aircraft and in what proportion. The environmental effects of aviation activities, which have been increasing importance for the last 50 years are composed from; noise, air quality, climatic changes. In order to combat these effects, practices such as improvements in aircraft and engine technologies, air traffic management and operational processes, alternative fuel policies and government policies are implemented. The job of an air transporter who wants to continue its activities by adapting to the aforementioned options is not an easy task. While air transporter carriers have to decide by considering the cost-benefit analysis in cases such as the type of aircraft they choose for their activities, working hours, etc., the costs to be incurred may increase due to environmental constraints.

It may be possible to reduce the negative environmental effects of global civil aviation activities by Sub-Saharan African countries especially through minimizing aircraft noise and aircraft engine emissions, with various measures to be taken.

1. Addressing the global climate change contributions of aviation is collaborating with other international organizations and especially within

the framework of the UN Climate Change Convention. As a result of the limitation of the flights of second generation aircraft, there will be a significant reduction in CO₂ emissions.

2. Decreasing or limiting the number of airplane seriously contributes to reduce the greenhouse gas emission.

* Impact of aviation greenhouse gas emissions on global climate to create, develop and implement new or renewed methods to reduce/limit.

* Impact of aircraft engine emissions on local air quality reduce/limit.

Emissions from airplanes are consisted respectively from carbon dioxide (CO₂), methane (CH₄), water vapor (H₂O), nitrogen oxide (NO_x), various sulfur oxides (SO_x), carbon monoxide (CO), various non-methane hydrocarbons (NMHC), other gases and particles. These emissions from aircraft engines affect the atmosphere and the upper troposphere. Emissions have negative effects not only on the environment but also on health. For these reasons, it has recently become important to know the amount of emissions as well as emissions. More specifically, near airports, sulfur dioxides and nitrogen oxides cause smog. Carbon monoxides are toxic and hydrocarbons are carcinogenic. Establishing specific thrust costs for the same model airplanes using different engine types in an airline and making optimization studies related to this is so significant. While smallness and lightness are of primary importance in aviation in terms of the engine used, factors such as longevity and the ability to use different fuels come to the fore in industrial applications. The amount of fuel injected into the air passing through the combustion chamber depends on the amount of temperature rise required. However, maximum temperatures are limited to temperatures between 850–1700 °C, depending on the material the turbine. Clean exhaust is a desirable feature for minimum environmental pollution and is directly related to the combustion process in the combustion chamber. The combustion chamber must also be capable of maintaining adequate and efficient combustion over a wide engine operating range. Rising air pollution also increases the importance of efficient combustion. For this reason, engineering works for aircraft engines should be aimed at reducing environmental damages. As a result of the examination of the aircraft types, it is revealed that the Boeing 737-800 aircraft type is the most common type of aircraft. Aircraft, which is the most abundant in the Boeing 737 series, is the type of aircraft that provides the most emissions to the atmosphere in terms of emission amounts. Although the other planes of the 737 model give less emission, the 800 series causes more emissions. Therefore, it can be expressed that the series other than the 737-800 are more environmentally friendly and the widespread use of these models can reduce environmental pollution.

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CHAPTER 9

DEVELOPMENT OF DIGITAL MARKETING, ADVERTISING AND SALES STRATEGIES IN THE WORLD OF METAVERSE

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1. Introduction

There is a common fallacy that the word “metaverse” was first used in the 1992 English-language novel *Snow Crash* by Neal Stephenson. The metaverse, on the other hand, is nothing at all like what one might imagine from a book of science fiction. In 2003, a group of software engineers were inspired to construct the online platform that is now known as “Second Life” by reading the 1999 book “*Snow Crash*.” The users of this platform were given the option to generate a cartoon representation of themselves and engage in social interaction with other users in a number of distinct virtual settings. In addition to that, consumers have the ability to do so by utilizing this platform. The prefix “meta,” which comes from the Greek language, may be translated literally as “beyond,” which is the meaning of the term “beyond.” This leads one to believe that there is more that can be created and experienced in the world than there is room for at the present time. The promise of the metaverse, on the other hand, would never be fully realized if it did not have access to extremely fast internet. One of the best illustrations of this issue may be seen in the virtual world known as “Second Life,” which can be viewed on the internet. This virtual environment was developed before mobile phones were commonly used by people everywhere. The fact that Second Life was unable to provide users with real-time interactions that could be carried out even as they were moving about was one of the contributing factors that led to the game’s falling popularity. Existing wireless connections of the fourth generation (4G) are just about capable of supporting multiplayer games like Fortnite, but they are unable to manage hundreds of streams of constant, time-sensitive data. As a result of this, cellular service providers from all over the world are investing billions of dollars to build up their 5G network infrastructure. It’s feasible that in order to travel even further into the future, they’ll require speeds of up to 6G. Businesses that are primarily based in the real world can greatly benefit from the concept of the metaverse because it serves as a massive testing ground that gives them direct access to a wide range of demographic target groups, particularly the younger generation. These are the kinds of things that might be of special interest to the companies in question. The distribution of information about the metaverse may be mainly attributed to the success of online video games like Fortnite and Roblox, which take place in virtual worlds. Games like these have contributed significantly to the dissemination of this information. To have a narrow viewpoint on the topic and claim that gaming is at the apex of the metaverse is to be lacking in perspective. The metaverse is capable of producing effects that are comprehensive in scope (Hollensen et al.: 2022).

It is possible to say that live commerce and the metaverse have a relationship that may be characterized as one of complementarity. When a

product is only available through live streaming, it might be difficult to provide a full response to the issues raised by customers. Because of this, it is more difficult for businesses to communicate with their clients. On the other side, there is a disadvantage to making use of the metaverse, and that is the fact that it is not feasible to obtain information about or images of the actual shape of the items. This is one of the drawbacks. As a result, we propose a platform that may complement each other's shortcomings in order to produce a retail environment that enjoys the benefits of both offline and online shopping by merging the two. In other words, we want to create a retail environment that is like having the best of both worlds. The combination of these two distinct shopping experiences would result in the creation of this platform (Jeong & Kim: 2022).

The metaverse is an environment that will continue to exist forever and is utilized by a number of different individuals. It incorporates aspects of both real life and computer simulations into one cohesive whole. The term "post-reality world" is another name for this sphere of existence. It is based on the convergence of technologies such as virtual reality (VR) and augmented reality (AR), both of which enable multimodal interactions with digital objects, people, and virtual environments. As a direct result of this, one interpretation of the metaverse is that it is a network of social, networked, and immersive experiences that are housed on permanent multiuser platforms. As a result of this feature, users are given the opportunity to interact with one another and digital objects in a manner that is both dynamic and in real-time. In its earliest form, it took the form of a network that linked together a variety of different virtual worlds and made it possible for avatars to freely travel between these worlds. The most recent incarnation of the Metaverse is comprised of social, immersive virtual reality (VR) systems that are compatible with massively multiplayer online video games (MMOGs), open game worlds, and augmented reality collaborative spaces (Mystakidis: 2022).

Microsoft was the company that first used the term "metaverse" to refer to a digital setting that is fully immersive in all three dimensions. A "metaverse" is an example of a digital environment. In contrast to this, the term "cyberspace" refers to a more comprehensive and all-encompassing idea of "cyberspace," which reflects the totality of shared online space across all dimensions of representation. The most important change in people's perceptions is that they no longer think of the Metaverse as an extended version of a single virtual world; this change occurred a long time ago. Instead, they view it as a large network that connects a great number of different virtual worlds with one another (Dionisio et al.: 2013).

2. Metaverse Marketing

In the metaverse, economic activity is an essential component of the content. It not only allows for the consumption of garments and other commodities that are supplied by the manufacturing firm but also allows for the manufacture of these items and their subsequent sale to other users. This results in the continuation of economic activity. A virtual environment that can foretell the future by accurately replicating the qualities of the actual world is known as the “metaverse.” The majority of the research being done on Metaverse is being done for marketing and investment objectives, with an emphasis on social usefulness. Games and some business applications are often the focus of Metaverse’s attention. The Metaverse is currently being served in a variety of application forms. The simulation is utilized not only for the investigation of social phenomena but also as a marketing simulator. It begins with a game. In addition to being employed in museums and classrooms, it is also put to use in educational settings, where it may impart knowledge through simulation. Within the metaverse, simulations that reflect real-world activities are one type of application that is readily available to users. However, the simulation of Metaverse is carried out within Metaverse, making it distinct from general simulation due to the fact that general simulation is solution-dependent (Park & Kim: 2022).

To connect and interact with consumers and other stakeholders in a metaverse, as well as a number of other prospective audiences, marketers will have a range of options available to them when they make use of XR technology. The augmented reality (AR) programs and improvements that are already available in previously existing virtual worlds such as The Sandbox, Decentraland, and Roblox are simply offering a taste of what the future may bring. The following is a discussion of some of the ways that marketers have leveraged XR or metaverse concepts for the goal of accomplishing commercial objectives, with the understanding that we are just scratching the surface of what is possible in these worlds. In terms of digital marketing, the metaverse will be able to improve both the quality and the type of customer contacts. This will be possible in a number of different ways. This will be achieved by combining aspects of the real world with those of the virtual world in order to provide an experience that is both immersive and compelling to users in the virtual world. A user or client will be able to acquire access to and enjoy this experience through the use of virtual reality and augmented reality, thanks to the application of internet technology. The current state of social media and digital marketing does not support the creation of the same degrees of participation that are conceivable with the metaverse for digital marketing. This is due to the fact that the metaverse was designed specifically with digital marketing in

mind. Nevertheless, there is the potential for marketing that is both more creative and participatory, and it has the potential to achieve both heights. The utilization of digital marketing and social media in combination with one another has the potential to raise these levels of engagement to a higher degree. There are already a number of start-up companies located in a variety of countries around the world that are focusing their efforts on the development of new technologies that will make it possible for users to construct digital avatars to represent themselves within the metaverse in a manner that is simpler and more intuitive. These companies are putting their efforts toward the development of new technologies that will make it possible for users to construct digital avatars to represent themselves within the metaverse. Not only will avatars be able to produce virtual items in the metaverse, but they will also be able to possess those goods, sell those goods, and make financial investments in those goods (Dwivedi et al.: 2022).

The increasing popularity of the metaverse market is beneficial to gamers and entertainers, and it draws huge investors who invest in areas connected to advertising and other relevant sectors. Businesses such as Facebook Inc. are investing a significant amount of capital into collaborating with public sector organizations and the private sector in an effort to enhance social media platforms and make advertising and marketing more approachable. These are only a handful of the essential components that are driving the development of the sector (Kaur & Gupta: 2021).

The ever-increasing popularity of the metaverse market is good for gamers and entertainers, and it attracts massive investors who invest in areas associated with advertising as well as other important industries. Businesses like Facebook Inc. are investing a significant amount of capital into collaborating with public-sector organizations and private-sector businesses in an effort to improve social media platforms and make advertising and marketing more approachable. These efforts are being made in an effort to make advertising and marketing more accessible to more people. These are only a few of the fundamental factors that are primarily responsible for the rapid expansion of the industry. In the metaverse, advertising might interfere with our capacity to contextualize promotional information by muddying the lines between genuine interactions and promotional experiences inserted on behalf of paying sponsors. This would render our ability to contextualize promotional content useless (or render state actors useless). Protecting people's fundamental right to have genuine experiences should be a priority for policymakers for the sake of public safety. This might be accomplished by mandating that all promotional objects in the metaverse, as well as all virtual spokesmen, have distinct visual and aural characteristics so that users are able to quickly identify them when they

are in the appropriate setting. Members of the public wouldn't be able to confuse interactions that have been edited for promotional purposes with genuine ones thanks to this measure (Rosnberg: 2022).

The growth of the metaverse market is anticipated to be driven by a variety of significant causes, including those that were discussed earlier in this paragraph. The expanding demand in the media, entertainment, and gaming industries, in addition to other adjacent markets such as XR; the rising potential from adjacent markets such as XR; and the increasing digitalization in the art, fashion, and retail industries are some of the primary aspects involved here. These essential components significantly broaden the applicability, reach, and scope of services that the metaverse provides to a diverse array of businesses and end users, which, in turn, results in a significant increase in the size of the prospective user population that might make use of the metaverse. Additionally, the use of gamification and virtual world simulators in marketing campaigns by brands has made it much more important for vendors in the metaverse market to redesign cutting-edge infrastructure, improve 3D environments, and create a technologically driven ecosystem in order to ensure that end users can have the best possible experiences and transactions. This is because the use of gamification and virtual world simulators in marketing campaigns by brands has made it much more important for vendors in the metaverse market to redesign cutting-edge infrastructure, improve 3D environments, and create (Mourtzis et al.: 2022).

3. The effect of metaverse on customers

Customers that utilize Metaverse can improve their level of satisfaction as a result of increased experience customization and quicker access to virtual settings that can be tailored to the customer's preferences and offer an immersive experience. At any time and in any location, it is possible to record insightful interrelationships between customers and enterprises, which drives greater customization and contextualization. In addition, this facet of the experience is difficult to pin down because it is present at every conceivable level of a hospitality-related interaction. Through the use of immersive technology, customers are given the opportunity to actively engage with all relevant stakeholders, participate in, and collaborate on the creation of experiences. The revolutionary nature of Metaverse, on the other hand, means that only a select few companies have been able to deliver a technologically illusory experience to hospitality enterprises up until this point. It is essential for businesses in the hospitality industry to formulate a strategic plan for this experience and work in collaboration with businesses in the technology sector to realize the development in order to better serve their clients in the Metaverse hybrid environment (Buhalis et al.: 2022).

Many different types of businesses and industries have started to adapt to the shifts that have been brought about by the metaverse. There have been a significant number of companies that have made public statements on their plans for the Metaverse, and the number of companies that are making these types of announcements is expanding on a regular basis. The Metaverse has developed into a platform where businesses may virtually carry out their daily activities, and this trend is expected to continue. Several companies now organize meetings for their workers who work remotely using the platform known as Metaverse. The workers are able to participate in these meetings by logging in with their digital avatars and carrying on a chat with one another while the sessions are in progress. When a market is segmented into its component parts, there are many opportunities to do business with the end customers of those parts. The application of augmented reality technology has the potential to make the online shopping experience more enjoyable and satisfying. When making a purchase online, a customer does not need to rely solely on a photograph of the item in order to form an opinion about it; rather, they may use augmented reality (AR) technology in order to experience the item in three dimensions. This eliminates the need for the customer to rely solely on a photograph of the item. At the present time, companies are focusing the majority of their efforts on the metaverse. The capacity of metaverse technology to connect with augmented reality technologies is attracting the interest of businesses, which may lead to financial investments in the field. As a direct result of this, a vast number of companies have just lately started the process of launching their very own virtual stores on Metaverse. As a result of this change, consumers' experiences began to improve (Nalbant & Uyanik: 2022).

4. Advertising and branding in metaverse

Although it is unlikely that anyone will be able to predict with any real certainty exactly what the metaverse will look like and how it will evolve over the next few decades, it is clear that augmented reality and virtual reality, along with innovations such as NFTs, cryptocurrency, and digital advancements, will be producing a more advanced “virtual world” in which some consumers will spend time. This is despite the fact that it is unlikely that anyone will be able to predict with any real certainty exactly what the metaverse will look like. This is despite the fact that it is doubtful that anybody will be able to anticipate with any real accuracy exactly what the metaverse will look like. In addition, it would appear that there is very little room for skepticism regarding the insertion of ads into this virtual environment. Because of this, it is plainly obvious that there is a pressing need for more research into the metaverse. This is a direct result of what has been stated. The primary objective of this editorial is to encourage the

conduct of additional research on advertising in the metaverse and to make it abundantly clear that contributions on this subject are encouraged to be made to the International Journal of Advertising. A secondary objective of this editorial is to make it abundantly clear that contributions on this subject are encouraged to be made to the International Journal of Advertising. Even though conducting research on a brand-new topic could be difficult at times, there is a great deal of evidence to suggest that this line of inquiry will be fruitful in the years to come and that it will experience a large amount of growth. The current state of affairs in the area of research relating to advertising in the metaverse is fairly comparable to the state of affairs in the field of research relating to digital advertising in the 1990s. The year 2005 saw the beginning of the digital age's rise to prominence as a major advertising medium. This was a result of the fact that there was a great deal of uncertainty surrounding the real behavior of consumers in relation to the end product, as well as a rather slow diffusion of internet penetration and shopping. This was due to the fact that there was a great deal of uncertainty surrounding the real behavior of consumers in relation to the end product (Taylor: 2022).

Businesses that are contemplating embracing the metaverse for the purposes of marketing, branding, and advertising must be aware of a range of crucial ramifications, including the ones listed below (Bushell: 2022):

The use of the metaverse gives businesses the opportunity to contact potential customers situated in different parts of the world, which may be of tremendous use to the expansion of the business.

b. Interactions that are based on avatars give a unique opportunity for businesses to engage with prospective customers, and the Metaverse makes it possible for this to take place.

c. It is not possible to create advertising experiences in the actual world that are as dynamic and engaging as those that are accessible in the virtual world of the Metaverse. This is due to the fact that it is not practical. The metaverse is the only place where it is possible to produce experiences of this nature.

d. In terms of the competitive environment, companies that use the Metaverse for marketing, branding, and advertising may have an advantage over companies that do not use the Metaverse for these things.

e. Because the metaverse is still in its infancy, businesses that want to keep their place at the head of the market need to be flexible in their business strategies so that they can adapt to the ever-changing environment. This will allow them to preserve their position at the forefront of the market.

Human agency has become more important as a result of the gradual decline of scheduled programming content, which has been gradually replaced with on-demand streaming content. Users now play a greater role in determining the advertising content they want to be exposed to, as well as the depth and range of the content and the media platform that is used to deliver the content (e.g., computer, tablet, smartphone). A customer may only be able to point, click, and drag a product using the mouse on a website, but they may be able to touch, feel, and hold the same object in their hands in immersive VR. This is because different media elements enable differing degrees of interactivity. The consumer has always held the position of king in the retail industry, but with the emergence of the metaverse, customers ought to be placed at the forefront of how we perceive the advertising process (Ahn et al. 2022).

In the metaverse, people can take on different roles in the social and economic worlds by inhabiting digital versions of themselves called avatars. It is possible for humans to transport the lessons they have learned from their own lives into the domain of the metaverse if they adopt this philosophy. The conventional uses of the technology, like video games and communication services, are examples of the kind of applications that are now being added to the growing list of potential uses for the metaverse, which also includes commercial platforms. The metaverse is an ecosystem that is said to be permanent and real-time, as well as infinite, self-sustaining, interoperable, and decentralized. This is according to those who advocate for the metaverse. Publishing ads in the domain of the metaverse is one strategy that a great number of shops and businesses are utilizing to increase consumers' familiarity with their items. This pattern may very well be attributed to the ever-increasing level of interest in the metaverse platform. Convenience stores and businesses that deal with food and drink are also present in the metaverse. Some of these businesses have even moved their operations there. One way to explain the approach to marketing that is taken in the metaverse is to think of it as an amalgamation of offline and online methods of marketing and advertising. Billboards are a sort of advertisement that people frequently see hanging from the sides of huge buildings, roadways, and other public locations. In this way, real-world advertising may be compared to billboards. The form of advertisement that people frequently encounter in their game, such as a pop-up ad, a banner ad, or another advertisement of a similar nature, is the type of advertisement that contributes esthetically to the creation of metaverse and virtual world commercials. In addition to being exposed to marketing in the real world and the virtual world, users also see a little bit of advertising when they attempt to access their avatars. This is in addition to the marketing that they see in the actual world. In order to take part in the realm of the

metaverse, everyone has their own avatar, and a lot of fashion and beauty firms are attempting to create their products in such a way that they can be used in the metaverse. This device can be utilized by the user whenever there is a desire on their part to alter any aspect of their look (such as their dress, their cosmetics, etc.). Users of certain brands are expected to pay for the clothing and makeup they wear in the virtual world, just as they do in the real world. This is the case even if the virtual world is not a physical place. Because of this, advertising in the environment of the metaverse may also be of great benefit to merchants and corporations in terms of promoting and selling the items that they have to offer. This article includes a management system for advertisements in order to facilitate the promotion of each brand in a fair and objective way, with consideration given to the user demand categories that each brand serves (Widiyanti et al., 2022).

5. The advantages of the metaverse

Emerging metaverse solutions give a view into prospective application areas, which is useful even if the benefits and possibilities presented by the metaverse are not yet instantly realizable. Despite the fact that the metaverse is still considered to be in its formative years, this is reality. It is commonly held that the shift from analog to digital forms will be equally as monumental as the transition to the metaverse, which, on its own, will be important. In a variety of contexts, the metaverse will make available information that is up-to-date, pertinent, and fascinating; this data has the potential to be exploited in exchanges that take place in the physical world. Several instances of this may be seen in the form of augmented social networking filters, advice for industrial repair projects, interactive museum displays, dynamic information overlays for knowledge workers, and navigation for both commercial and consumer usage. Another type of digital interaction that may take place is one in which the user is given the option to switch between a number of different virtual worlds. This kind of interaction might also take place. Even though the current metaverse experiences will not entirely supplant the way in which we interact with applications, websites, and other digital platforms, it is likely that these experiences will pave the way for new kinds of interactions and business models that can be adapted to fit a variety of different use cases. This is because the current metaverse experiences are still in their infancy. Other industries that will be directly impacted by the metaverse include banking, electronics, semiconductors and the production of semiconductors, communications and media, retail, engineering, marketing of organizations, branding, and sales roles for products and services. Other industries that will be indirectly impacted include sales roles for products and services, retail, and engineering. The sales responsibilities that are required for various products and services will likewise be directly impacted by the

metaverse. In addition, individuals in charge of products need to broaden their perspective beyond the local setting in which their wares are utilized in order to identify possibilities that are relevant to a number of different industries. This is necessary in order to find opportunities that are applicable to a variety of fields. It is quite possible that the metaverse will make it possible for us to have experiences in the supply chain of the digital world that we have never had before. Furthermore, these experiences will be completely unique to us (Mourtzis et al.: 2022).

The expansion of the metaverse creates a variety of opportunities that may be used by individuals, groups, and society as a whole. By reducing the limitations that distance and time impose, it has the ability to bring about new benefits and maybe enhance the well-being of those who utilize its services. Consider the situation of an immigrant who is compelled to leave behind his family in order to pursue his dream of a better life. He is able to have a deeper knowledge of what it is like to go through the same feelings and experiences that he goes through with his own family by participating in an immersion program. Additionally, it improves the overall gaming experience for the player. The application of the interactive technology provided by the metaverse not only improves the user's experience but also helps to establish a psychological and emotional feeling of immersion in the environment they are exploring. There is a possibility that the economy as a whole will be impacted if new kinds of organizations or even whole new kinds of enterprises are established with the express purpose of utilizing the metaverse. Additionally, it provides opportunities for expansion as well as the testing of novel concepts for firms that are already in existence. The metaverse has a number of potential applications in a wide range of fields (Smaili & de Rancourt-Raymond: 2022).

6. Businesses using metaverse

Businesses that use Metaverse are listed down below (Bushell: 2022).

a. Apple: Apple has been utilizing the metaverse in order to broaden the appeal of its brand to a broader audience of consumers and to develop new brand extensions. Apple introduced what it calls the “Apple Watch Experience” in 2014, which was an interactive event for the company's customers to take part in. As part of this experience, customers were given the opportunity to try on an Apple Watch and get a better understanding of how it functions. In 2015, Apple utilized Metaverse in order to boost sales of the iPhone 6s and generate leads for prospective buyers. Because Apple made a version of the device that works with virtual reality, sales of the iPhone 6s have gone up by almost 30%.

b. Decentraland: Decentraland is one of the first companies to establish the Metaverse as a platform that can be used by content producers

as well as businesses that are looking for a new creative medium or commercial opportunity. The Metaverse is a platform that can be used by content producers as well as businesses that are searching for a new creative medium or commercial opportunity. People are given the power to produce and sell a diverse range of technological and entertainment goods, as well as gain property in the Metaverse, thanks to this innovation.

c. Epic Games: Epic Games is one of the most inventive major corporations, and as such, it is one of the firms that is contributing to the establishment of the Metaverse as a direct result of a significant amount of research and development. This Metaverse company has said that they want to put a million dollars into making the Metaverse better by 2021.

d. NVIDIA: In order for Meta to close a deal with the Metaverse market, it is vital for them to collaborate with NVIDIA, which is one of the most well-known firms in the sector. This will allow Meta to increase their chances of being successful. It took the initiative to make Omniverse, a platform for producing goods that is compatible with Metaverse and can be downloaded for free, available to users of both platforms.

e. Meta: Meta is the name of the company that is principally responsible for the creation of the Metaverse platform. Users and players can use this platform to take part in a variety of real-time, 3D virtual worlds while keeping their personal and financial information private. A new avatar lens has been introduced by Snapchat, which is one of the firms that is rapidly expanding its presence in the metaverse. This lens illustrates how a user or player in the metaverse can seem to other users and players. The avatar filter makes use of augmented reality and provides users with the ability to modify the appearance of their character in a variety of ways, including the weapons they use and the clothes they wear.

7. The future of the metaverse

The Metaverse is not a single product that can be managed by a single corporation by itself. The metaverse is similar to the internet in that it will continue to exist with or without Facebook. Neither will the construction take place overnight. The full potential of many of these items won't be realized for another 15 to 20 years at the earliest. Because of this circumstance, there is a greater chance that the themes will be reviewed from a wide variety of perspectives in the literature throughout the course of this growth process. This demonstrates the significance of the metaverse, as well as the significance of the research that has been conducted in this

area and published in the relevant literature. It is believed that it will be beneficial for the researchers to compare the data obtained from various databases with the data obtained and to present a texture analysis of the metaverse periodically. This is important for both the advancement of the field and for the researchers to gain a general understanding of the situation (Damar: 2021).

In addition, because of the enormous transaction volumes that are involved, the centralized economic system that is used in the physical world is incapable of functioning well in an environment that is public, fair, and self-organized. In light of the connection that exists between the actual world and the virtual world, the metaverse ought to make it possible for monetary transactions to overcome obstacles pertaining to, among other things, working conditions, the acquisition of knowledge, and the maintenance of life. Because of this, the economic system of the metaverse has to be constructed using a decentralized approach so that avatars' virtual assets may be traded with one another in an efficient manner. In contrast to the real world, the potential for digital creation in the online world seems to have no bounds. The identity of digital things, as opposed to the undifferentiated labor that is prevalent in traditional economies, is what determines value. When it comes to the world of digital production, it is very necessary to develop authoring tools that provide users the ability to create original content quickly, affordably, and easily while also maximizing their potential for benefits. It's possible that these technologies will improve the enthusiasm of those who create material for the metaverse. On the other hand, the marginal benefits of production in the metaverse will increase, in contrast to the physical world, which will see falling marginal benefits of production. A method for converting values is required in order to bridge the gap that results from the mismatch in the marginal benefits offered by the actual world and the virtual world. In the future metaverse, players will opt to pick a digital wardrobe from their virtual closet. At the same time, businesses will begin to overprice virtual skins, virtual clothes, and even virtual estates, which will discourage a significant portion of gamers from entering the metaverse. As a result of this, it is very necessary to build specific governance approaches in collaboration with multinational firms. In addition, the manner in which to build a digital currency system that would make it possible for monetary transactions to take place between the metaverse and the real world is still a topic of contention (Yang et al.: 2022).

The concept of the metaverse is one that is relevant in the modern world and has great potential. It is envisaged that the approach referred to as "the metaverse" would concentrate its emphasis not on how this technology will be built in the future, but rather on how it will be incorporated

into people's day-to-day lives. Because of this, there is an urgent need for further research and development work to be done right now on this technology. Technologies in the realms of computer vision, augmented reality, and extended reality are the ones that need more investigation. If these technologies are created, they will be able to make a contribution to the metaverse that is both more rapid and more beneficial. Companies need to invest more money in this space, and new technologies should emerge with more speed and sophistication. In particular, in the domain of business, the most successful firms in a specific industry should engage in the metaverse and serve as an example in this respect. This is because participation in the metaverse will allow for more collaboration. The rate at which we are able to realize and implement this vision will be a critical component in determining our trajectory in the years to come. In addition to this, it is necessary for individuals in society to have easier access to these technologies. This technology, which will very soon play a crucial role in our day-to-day lives, needs to be available to employees working at every economic level inside the company. It is imperative that, as an alternative to generating a product with a high price point, the attention be centered on developing things with reduced price points that are accessible to everyone (Nalbant & Uyanik: 2021).

8. Conclusion

It is not difficult to picture the totality of the Metaverse as a playground that was constructed with marketers in particular in mind. This was taken into consideration throughout the construction of the metaverse. Virtual reality and augmented reality serve as the driving forces behind the creation of a new world known as the "metaverse." The old conception of this setting was that it was unattainable and located in the far future. Despite this, humanity's existence in this one-of-a-kind cosmos is quickly becoming something they do on a regular basis. Recent marketing efforts have shown that firms operating in a diverse selection of markets are embracing the immersive quality of the Metaverse in order to boost their overall number of product sales. The fact that these companies are using the metaverse provides evidence for this claim. It accomplishes this objective by giving clients access to a virtual reality setting in which they may experiment with the things that they are considering purchasing before committing to a purchase. It appears as though the Metaverse will be made up of a network of various virtual worlds. Within these worlds, users will be able to interact with one another in a manner that is more natural and unrestricted than what is currently possible on a variety of social media websites. This will make the metaverse superior to the current state of social media. Users will have an experience with this that may be defined as "more natural and instinctive," which will make it possible for them to do

so. As a direct result of this development, the business community of the metaverse now has access to a broader range of channels via which they may begin to cultivate new clients and increase their awareness. Because of this, they will be able to increase the size of their existing consumer base. As a consequence of the opportunities that are presented by such virtual experiences, the provision of such experiences is beginning to attract the attention of a growing number of businesses. The metaverse is a world that features enhanced connectivity, provides people with a greater variety of options, and enables businesses to engage in client interaction methods that were previously unheard of.

The pervasiveness of digital addiction in today's culture has directly contributed to the emergence of a new phase in the progression of consumer behavior, which was previously uncharted territory. The beginning of this completely new phase has arrived. As a direct response to the extensive outbreak that was brought on by the coronavirus, an ever-increasing number of people are relying on the internet to fulfill their shopping, working, recreational, and educational requirements. This is partially attributable to the fact that there are fewer obstacles in people's paths that prohibit them from making use of the internet. Breaking down the barriers that currently separate the real world and the virtual world is one of the primary goals of the Metaverse project, which aims to bring about a fundamental shift in the way that humans make sense of the world. This is one of the primary goals of the project because it will help bring about a fundamental shift. As a direct result of this capability, businesses now have the opportunity to engage in conversation with previously untapped demographics, bolster the faith of the customers they already have, and research new avenues that might lead to more income. In general, each and every part of the metaverse has an enormous amount of untapped potential that is available to be used by a wide range of distinct sorts of commercial enterprises. It is to be anticipated that the most successful brands will establish a foothold in this market segment. When you use strategies for marketing in the metaverse, there is a good chance that you will be able to obtain some information that will be helpful to your business or brand. If you choose to use these tactics, then this may be the result. The development of efficient marketing, advertising, and sales tactics through the utilization of digital channels is of the utmost necessity when it comes to conducting business in the metaverse. In this era of digital transformation, for businesses to be successful, they need to make investments in the metaverse and build their strategy inside this area. Only then will they be able to compete effectively.

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CHAPTER 10

THE EFFECT OF CORPORATE IMAGE IN ACCOMMODATION COMPANIES ON DEMANDS OF BULGARIAN TOURIST: AN ANALYSIS IN AYVALIK

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1. INTRODUCTION

Due to the intensive competition environment in the world, the importance of the corporate image of the companies is increasing day by day. In order for companies to become successful in such intensely competitive environment, it is crucial to be familiar with the expectations of customers towards the company and what they expect in order to maintain their loyalty. Companies leave some traces in the minds of consumers with the relations of the employees of the company with the customers, the way of communication, the way the company presents its products and services, the logo it has, as well as the architecture of the building. These traces are the expression of the institution in the mind of consumers (Esener, 2006). Corporate image is perceived as a strategic element by various authors. It is emphasized that companies may gain competitive advantages by courtesy of corporate image (Hatch and Schultz, 2003). The corporate image of companies in all sectors is also of great importance in the tourism sector. Companies in the tourism sector need to acquire a strong corporate image in order to maintain demand elasticity, stand firm among their competitors in the market, and to gain a good place in the eyes of the target audiences under intense competition conditions. Through the corporate image, accommodation companies reveal their differences among other businesses which provide similar services (Bolat, 2006).

2. LITERATURE REVIEW

2.1 Concept of Corporate Image

Image is very important for companies that struggle to survive in the presence of increasingly difficult competitive conditions with rapid technological development and rapid information flow in the globalizing world (Zengin et al., 2009). Corporate image emerged in parallel with the efforts to stand out in the competitive market, especially following the Industrial Revolution, and began to be scientifically considered. Management of corporate image is a discipline established on modern corporate identity practices and marketing science (Gemlik and Sıgır, 2007). Corporate image is the consequence of an assessment process. Although a customer does not have enough information regarding a company, it would be affected by different sources such as word of mouth and advertising in the formation process of the corporate image (Aydin and Özer, 2005). The importance of corporate image for companies has increased along with the impact of globalization, and corporate image and corporate reputation have become important corporate assets for the success of companies (Sabuncuoğlu, 2007).

2.2. Components that Constitute the Corporate Image

Companies have either a positive or negative corporate image, regardless of putting a conscious effort or not (Mason, 1993). The corporate image components are as follows:

2.2.1. Corporate Communication

Although corporate communication covers the target groups to which the company is related, it is an important structure that conveys the company's objectives, information about the company toward corporate stakeholders, and ensures the establishment of corporate identity (Steidl and Emery, 1997).

2.2.2. Corporate Design

Corporate design and corporate appearance, which is a concrete image indicator for companies, are significantly effective in deciding whether to do business with that company or not. Corporate appearance; consists of product, communication tools, and environmental view (Küçük, 2003: 38).

2.2.3. Perceived Service Quality

Quality is an indispensable component for companies to maintain their existence for many years. The thoughts of the customers about the company, that is, the idea they perceive, is crucial for the continuity of the company.

2.2.4. Corporate Behavior

Institutional behavior refers to the sum of corporate actions that occur as a result of institutional attitudes, which can be planned or spontaneously in compliance with the corporate culture (Melewar, 2003).

2.2.5 Institutional Structure

Corporate structure, which is one of the important components of corporate identity, includes brand structure and organizational structure (Dursun, 2011). Organizational structure organizations should be qualified to support the corporate image.

2.2.6. Corporate Personality

Each institution has its own personality, just like humanbeings (Uzoğlu, 2005). The vision, mission, cultures, and philosophies in the companies generate the personality of the company and distinguish it from other companies.

3. Demand and Consumer Behaviors in Tourism

Colloquially, demand means to want something. In economics, demand is the willingness to purchase something. Tourism demand is the person or group of people who have sufficient purchasing power and free time,

and who benefit from or wish to benefit from touristic goods and services within a certain period, in compliance with a certain goal (İçöz and Kozak, 1998). The purchasing behaviors of consumers are formed by the impacts of various factors which can be listed as follows (Cemalcılar, 1999);

3.1 Economic factors: One of the main factors that determine where and how long tourists would be hosted and which goods and services they would purchase involves their incomes and the portion of those incomes that would be spent on touristic consumption (Kotler, 2005).

3.2 Personal Factors: An individual's occupation, living period, age group, economic situation, lifestyle, and self-pleasure personality are important.

3.3 Psychological Factors: Some psychological factors such as learning, motivation, perception, personality, attitudes, and beliefs also direct the purchasing behavior of tourists (Hayta, 2008).

3.4 Social Factors: In general, individuals who make up the family in societies assume an active role in affecting each other and being a reference in purchasing a product. In societies, family functions as an active consumption group. People gather information from reference groups prior to making a purchasing decision (Yükselen, 2001). Understanding the reasons why consumers prefer the goods and services in the market over others requires an comprehension of the mechanism that pushes them to purchase those goods and services (İçöz, 1996).

4.1. The Effects of Corporate Image on Consumer Demands in Accommodation Companies

Today, due to the increasingly competitive conditions, companies have to consider the demands of tourists, who are the final consumers. Like all companies in the sector, the concept of image is quite an important factor for companies in the tourism sector as well. The images of the country and companies may positively or negatively affect the demands of tourists. Accommodation companies can also become more preferable by making a difference by courtesy of their strong images. Due to the aforementioned reasons, it is necessary to improve the existing corporate image in a positive manner (Gürkan, 2008).

Upon utilizing the information in the theoretical part of the study, the null hypothesis of the study can be stated as follows in order to determine the relationship between consumer preferences and corporate image;

H_1 : Corporate image is an effective variable on consumer preferences.

Dependent variable: Corporate Image

Independent variable: Travel Preferences

3. METHOD

3.1. Population and Sample

The population of this research study includes Bulgarian tourists who spend their vacations in Ayvalık destination. Bulgarian tourists are chosen due their main feature of being the most crowded foreign tourists in Ayvalık destination. Data are collected from foreign (Bulgarian) tourists who agree to participate in the research over the period June-September 2022 by asking face-to-face survey questions prepared in advance. Ural and Kılıç (2011: 48-49) stated that for multivariate studies, determining the sample size 10 times or more than the number of variables would have usually yielded more reliable results. The authors also asserted that the sample size should be approximately 384 for the population size of approximately 100,000. In this study, 403 participants are reached, since all of the submitted questionnaires forms are valid and over 384, it can be concluded that it is appropriate in terms of number and used variable.

3.2. Data Collection Tool and Analyses

In order to reach the information in our study, a previously prepared questionnaire is used as a data collection tool. Our Study Questionnaire is comprised of three parts. The first part aims to identify the demographics of the tourists. In the first part, there are additional questions about tourists' preference of accommodation, means of transportation, and duration of vacation. In the second part of the study questions, there are questions to determine the sources of information used by tourists upon choosing accommodation facilities. In the third part; a total of 4 questions are included, prepared with a 5-point Likert-type scale, regarding the information about the image of the tourists, the duration and number of vacations, the factors that can be effective in the formation of the corporate image of the accommodation facilities, and the perceptions of the tourists' corporate image. A 5-point Likert-type rating is used in this scale. Accordingly, evaluations on the scale of corporate image, factors that can be effective in the image, travel preferences, and frequency of departures are determined as "1= strongly disagree, 2= disagree, 3= undecided, 4= agree, and 5= strongly agree". The questions in the survey consist of 14 questions derived from Gürkan (2008) and similar institutional studies.

In order to reach and analyze the results in the study, SPSS 16.0 for Windows statistical software is used. In order to determine the demographic characteristics of tourists, frequency and percentage, weighted average, cross-table summaries, and correlation tests are performed. It is aimed to determine whether a significant relationship exists between the expectations and preferences of the tourists, their demographic characteristics, and the corporate image of the hotel companies by performing the single-ended correlation tests with a probability of $P < 0.05$ and $P < 0.01$.

4. FINDINGS AND EXPLANATIONS

Table 1: *Demographic Profiles of the Participants*

Gender	Frequency (n)	Percentage (%)
Women	206	51.1
Men	197	48.9
Age	Frequency (n)	Percentage (%)
18-27	105	26
28-37	107	26.6
38-47	101	25.1
48 and older	90	22.3
Marital Status	Frequency (n)	Percentage (%)
Married	241	59.8
Single	162	40.2
Educational Status	Frequency (n)	Percentage (%)
Elementary and Secondary School	93	23
Associate Degree	82	20.2
Undergraduate Degree	157	38.9
Graduate Degree	71	17.9
Profession	Frequency (n)	Percentage (%)
Private Sector Executive	41	10.2
Private Sector Employee	80	19.8
Public Employee	102	25.2
Self Employed	33	8.2
Student	88	21.8
Retired	24	6.1
Others	35	8.7
Average Monthly Income (LEVA)	Frequency (n)	Percentage (%)
400AZN-500AZN	73	18.2
501AZN-700AZN	104	25.8
701AZN-900AZN	102	25.3
901AZN and over	124	30.7
Total	403	100

Upon examining Table 1, 51.1% of the respondents are women and 48.9% are men. 22-26% of the tourists are within the range of 18 - 48 year-old age group, whereas 22.3% of the tourist are over 48 years of age. There is not much difference in terms of the marital status of the tourists. It is determined that 59.8% of the tourists are married, where as 40.2% are single. In terms of the educational status of the tourists included in the study, 38.9% of them acquire an undergraduate degree, 23% have an elementary/secondary school diploma, and 20.2% acquire an associate degree. According to these results, the education status of the tourists included in the study is quite above the average. Tourists (25.2%) who participated in the survey questionnaire study are employed in the public service, followed by students (21.8%) and employees of the private sector (19.8%). The private sector executives account for 10.2%. If a ranking is made in terms of monthly wages of the respondents, the first one (30.7%) earns 901AZN and above, the second one (25.8%) earns 501AZN -700AZN, and the third one (25.3%) earns 701AZN -900AZN. According to the figures in the table, it can be stated that the tourists are gathered at the middle income level according to the level of wages they earn.

Table 2: *Information Regarding the Vacation Preferences of the Participants*

Duration of Vacation	Frequency (n)	Percentage (%)
Less than 5 days	70	17.4
One Week	269	66.8
Two Weeks	46	11.4
Three Weeks and over	18	4.4
Preferred Accommodation Facilities	Frequency (n)	Percentage (%)
5 Star Hotel	65	16.1
4 Star Hotel	105	26.1
3 Star Hotel	205	50.9
Other	28	6.9
Means of Transportation Used	Frequency (n)	Percentage (%)
Automobile	85	21.1
Bus	313	77.7
Airplane	5	1.2

Upon considering Table 2, the majority of the tourists state that the duration of their vacation is 1 week (66.8%), where as 11.4% of them claim to prefer 2 week vacations. The length of stay of tourists in Ayvalık is above the Turkey's average. The facilities in which tourists stay are (50.9%) 3-star hotels, (26.1%) 4-star hotels, and (16.1%) 5-star hotels. 77.7% of the tour-

ist prefer to go to the destination region by bus, whereas 21% by private automobile. Upon considering that the income levels of the tourists belong to the middle-income group, their preferences regarding accommodation companies and means of transportation seem to be compatible.

Table 3: Sources of Information Used in the Selection of Accommodation Companies

Sources of Information	Order of Importance						Weighted score and Rating *	
	1. Order		2. Order		3. Order		W. score	W.Rating
	F	%	F	%	F	%		
Internet	44	10.9	98	24.3	113	28.1	428	19.7
Travel Agencies	7	1.5	96	23.8	119	29.5	325	15.2
References	42	10.4	56	14	28	6.9	263	12.2
Personal Experience	83	20.6	51	12.6	33	8.1	378	17.5
Press (newspaper)	17	4.1	73	18.6	59	14.7	254	11.7
TV-Radio	38	9.4	10	2.3	45	10.9	175	8.2
Hotel Brochures	3	1	3	.7	57	14.2	73	3.4
Hand Brochures	3	.1	5	1.3	61	15.3	81	3.1
Guide	1	.4	3	1.2	51	12.8	67	3.
Fair	11	2.9	50	12.6	6	1.4	131	6
Total	249		445		572		2149	100

Upon examining the study, vacationers benefit from different methods of obtaining information and resources when choosing the hotel in the holiday destination prior to making a vacation plans. In the study, there are information sources from which tourists benefit, frequency analysis, and results. The tourists are asked to choose the information sources they use in order to have information about the hotel while choosing the hotel in which they will stay, by ticking at most 3 options in order of importance. Along with frequency analysis, the weighted average method is also used. The following formula is used in the weighted average calculation.

Weighted Average = $(3 * 1^{st} \text{ Pref. Num.}) + (2 * 2^{nd} \text{ Pref. Num.}) + (1 * 3^{rd} \text{ Pref. Num.})$

$$3+2+1$$

Internet ranks first with 19.7%. The majority of respondents belong to the young- and middle-aged groups. The high number of individuals in the young-and middle-aged groups increase the rate of the Internet usage. By courtesy of the internet, information regarding the region and the facility can be reached quickly. This is followed by personal experience with 17.5%.

Table 4: Tourists' Vacation Preferences and Travel Time

Types of Vacation	Frequency	Lower Value	Upper Value	Arithmetic Mean	Standard Dev.
Convention	400	1	5	4.47	.976
Health	400	1	5	4.43	.901
Business	399	1	5	4.42	.965
Culture	398	1	5	4.4	.812
Nature	400	1	5	4.16	.995
Recreation	398	1	5	3.84	.681
Entertainment	400	1	5	3.55	1.030

People living in different countries travel at different times in their lives for vacation or different reasons. Tourists go on “convention”, “health”, “business”, “culture” and “nature” vacations for three months or over. On the other hand, it is understood that they go out for a month or over during recreation and entertainment vacations.

Table 5: The Ways in Which Tourists Perceive Image

The Ways Image is Perceived	N	%
Quality	238	58.8
Distinctiveness	167	41.4
Trust	211	52.3
Originality	138	34.2
Prestige	166	41.2
Impression	131	32.5
Symbol and Logo	87	21.6

According to the results of the responses given to the question posed to determine the perception of the concept of image by the tourists who respond to the questionnaire, 58.8% of the participants match the image with quality, 41.4% with distinctiveness and prestige, 52.3% with trust, 34.2% with originality, 32.5% with impression, and 21.6% with the symbol and logo. More than half of the participants associate image with quality (58.8%). The quality of the goods and services that companies produce and sell is quite important for consumers. The quality of the service offered would bring the company to a good place in the eyes of the consumer. Therefore, companies should never compromise on the quality of the product they produce.

42% of the respondents match distinctiveness and prestige. As of today, due to intensifying competition, companies are in an effort to provide different services for consumers.

Table 6: *Effective Factors of Image Formation in Accommodation Companies*

Effective Factors of Image	Frequency	Lower Value	Upper Value	Arithmetic	Standard	AMR*
		Değer	Değer	Mean	Dev.	
Quality Service	403	4	5	4.85	.367	1
Trust	403	2	5	4.55	.545	2
Attitudes and Behaviors of the Companies	397	3	5	4.54	.556	3
Attitudes and Qualifications of Employees	403	3	5	4.48	.536	4
Service Diversity	403	2	5	4.38	.809	5
Price	403	1	5	4.3	.734	6
Participation in Cultural Activities	403	1	5	4.2	.841	7
Sensitivity to Environmental Values	403	1	5	4.18	.75	8
Media Coverage	403	1	5	4.01	1.01	9
Advertisement and Promotion	403	1	5	3.92	1.046	10
Symbol and Logo	397	1	5	3.7	1.135	11
Sponsorship	397	1	5	3.73	1.16	12

*AMR: Arithmetic Average Ranking

In the table, there are the frequency analysis results with the factors that are effective in image formation. If we rank the factors affecting the image of accommodation facilities according to the results in the table, “quality service” and “trust” rank first, followed by “attitudes and behaviors of the company”. The rise in the quality of the services provided by the accommodation facilities toward the tourists would ensure that the tourists will be satisfied with these services and feel trust toward the facilities. This satisfaction and trust would be beneficial in the formation of new guests and corporate image of the facility.

From the management of the accommodation establishments to the lowest level employees, dealing with the customer demands and complaints to the smallest detail would help the tourists to be satisfied along with the establishment and loyal customers of the facility. It is quite important for tourists to visit more than one facility, satisfied with the accommodation companies, in terms of creating loyalty for the company. They also state some other factors in the perception and formation of the corporate image by the tourists hosted in the accommodation facilities.

These are; the attitude of the employees and the quality of the company's employees at the 4th order; the variety of services at the 5th; the price at the 6th; participation in cultural activities at the 7th; the others (sensitivity to environmental values, taking part in the media, advertising and promotion, symbol and logo, sponsorship) at the 8th.

Table 7: *Levels of Participation in Concepts Related to Image in Accommodation Facilities*

		Lower Value	Peak Value	Arithmetic Mean	Standard Dev.
	Frequency				
Accommodation companies that prioritize customer satisfaction create a positive image.	403	2	5	4.54	.615
When I choose a company again, the experiences gained during the stay are important.	403	1	5	4.35	.794
An advertised hotel has an image difference compared to a hotel that is not.	403	1	5	4.4	.916
Image is important in the services and presentations of companies.	403	1	5	4.12	.830
It is important that the preferred hotel is the establishment where I have previously stayed.	403	1	5	4.06	.815
My environment is effective in my choice of accommodation companies.	403	1	5	3.84	.930
The image of accommodation companies is important for my social status.	403	1	5	3.73	1.051
I prefer businesses with a high brand image when choosing accommodation.	403	1	5	3.60	1.157

In our research study, “Accommodation companies that prioritize customer satisfaction create a positive image.” expression is mostly preferred. The quality service provided for the satisfaction of the tourists and the trust gained in the accommodation facilities have a very important place in terms of the corporate image. Once I choose a company in the 2nd order again, the statement that the experiences gained during the stay are important can be effective in the tourists choosing the facilities again.

In the 3rd order, an advertised hotel has an image difference compared to an unadvertised hotel. In order to obtain the internal and external corporate image, companies should shift their services to potential tourists

rather than the accommodated tourists. To achieve this, companies need advertising. In order to create a corporate image, accommodation facilities should act by considering potential customers as well as their customers.

In the 4th order, there is the statement that image is important in the service delivery of the company. The existing good image of the accommodation facilities also increases the expectations of the tourists. Tourists expect a quality service from all services provided by the facilities they stay in. The existing image of the companies and the service provided should move in the same linear direction. In order to maintain the positive image of companies, the quality of service provided for tourists should not be reduced.

In the 5th order, it is important that the preferred hotel is the establishment in which I have stayed before. Satisfied tourists staying in the facility would wish visit the facility more than once since their trust and loyalty towards it would increase. For accommodation companies, loyal customers are crucial for business continuity.

Table 8: Relationships Among Customer Preferences

	An advertised hotel has an image difference compared to a hotel that is not.	It is important that the preferred hotel is the establishment where I have previously stayed.	My environment is effective in my choice of accommodation processing.	Image is Important in the Services and Presentations of Companies.	I prefer businesses with a high brand image when choosing accommodation	When I choose a business again, the income obtained during the stay experiences are important.	The image of Accommodation Companies is important in terms of my social status.	Accommodation companies that prioritize customer satisfaction create a positive image.
Income	.115*	.281**	.059	-.008	.146**	.304**	.226**	.055

There is a linear significant relationship at the level of $(116) < 0.05$ between the income level of the participants and the presence of a perceived image superiority of a company in social media and other resources over the one that does not advertise. It can be concluded that as the income level of the people who demand for accommodation facilities increases, the image differences of the advertised hotels would also increase. There is a linear relationship between the income levels of the tourists and their preferences of accommodation facilities with high brand image $(.059) P < 0.01$ As income levels increase, demand for companies with high brand image also increases. Another linear conclusion is that, by courtesy of the income level of the tourists, it is among the experiences gained during the vacation of those who wish to be hosted by an accommodation company once again. $(.304) P < 0.01$ Upon considering these figures, it is seen that as the income level of the tourists who prefer the accommodation facility increases, the vacation experiences they have obtained during their accom-

modation upon re-selecting a facility in which they have stayed earlier are higher. Another factor pertinent to the income level of the tourists is the current image of the hotels and the status perceived by the tourists. (.226) $P < 0.01$ As the income level of the accommodated tourists increases, they find the level of the facilities in which the stay during their vacation valuable in terms of their social status. In our study on Turks living in Baku in 2015, similar results were obtained in terms of income level and customer preferences of corporate image (Dinç Y. Topçu Z.2015)

5. CONCLUSION AND RECOMMENDATIONS

Today, competition among companies in all sectors is being experienced intensely in the tourism sector on a national and business basis. Corporate image has become an indispensable component for companies that wish to maintain their profitability and continuity through this national and business-based competitive environment. In our research study on Bulgarian tourists, it was concluded that the good image of the company directly affects customers' demands.

As a result of the findings obtained from the Bulgarian tourists, the tourists firstly (3.84) wish to go on a recreational and entertainment vacation and participate in such vacation at least once in 1-4 months. 16.1% of the tourists, who are on vacation or business trips, prefer five-star hotel stays, whereas 26.1% and 50.9% prefer four-star and three-star accommodation facilities, respectively. 66.8% of tourists organize duration of their vacations as one week. Tourists prefer buses (77.7%) and their own automobiles (21.1%) as means of transportation to go to such vacations. Participants assume importance to the internet as the most used source of information in their facility selection and service quality in hotel selection. Tourists state that the factors of perception of the corporate image consist of quality with 50.8%, distinctiveness with 41.4%, and trust with 52.3%.

In the findings of our study, "quality" appears as an indispensable component for the corporate image to be constituted about the company. In our research, quality service ranks first in the components of the company in obtaining a corporate image, followed by trust, attitudes, and behaviors of the accommodation companies towards tourists, attitude of staff, price, payment alternatives, and service diversity follow, respectively. In our survey study, the section implying that "Accommodation companies that prioritize customer satisfaction create a positive image" takes the first place. Making the tourists feel at home, trust, and loyalty provided with quality service are quite important factors in creating a corporate image. As a result of these factors, the tourists who leave contented would wish to visit again and spread positive thoughts about the company to their immediate surroundings. They would help potential tourists to demand for the facility.

“Experiences gained during the stay are important when I prefer a company again” is found to be crucial in the second place. The experiences of the tourists staying in the accommodation facilities during their vacations help them consider positive or negative aspects in preferring the company again. Positive experiences during the vacation are the most important factors upon choosing the company.

The statement “An advertised hotel has an image distinctiveness in comparison to an unadvertised hotel” follows. The national and international advertisements of the companies are some of the most important factors in creating the internal and external image of the company in communicating with the potential customers with large masses.

Upon considering the mentioned points, we can state our suggestions in order to obtain and uphold the corporate image of the accommodation companies, to ensure the continuity of the tourists who prefer us, and to be preferred by the potential tourists;

- The level of all services provided to tourists by hotel companies is an indispensable component for the satisfaction of tourists and the continuity of their loyalty. Today, hotels that take into account the changes in customer demands in the accommodation sector would have a positive corporate image in the public. The constant demand for differences in the forms of resort and holiday accommodation of tourists pushes them to seek qualified staff to provide better service, that is, they try to recruit the most suitable qualified staff for the job. Because the image of the accommodation facilities and the quality of the staff move in a linear direction. Quality service can be provided by qualified staff. Companies should consider facility’s image and staff quality in the same direction. Efforts should be made to improve customer relations. Customer-oriented business principles should be adopted. The negativities that the tourists would encounter during the vacation should be resolved by the companies. Accommodation companies should provide feedback indicating that they are taking care of tourists. The name of the company, the symbol and logo representing the company are also very important in the creation and development of a positive image in terms of accommodation companies. Accommodation companies should prefer short and simple names that are easy to pronounce and remember, distinguishing them from their competitors. Thus, thanks to the determined company name, it will be easier to be remembered, a difference will be created with competitors, and as time passes, it will create an element of trust in the consumer (Gürkan 2008).

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CHAPTER 11

USAGE OF GENERALIZED ADDITIVE MODELS FOR SOME DISCRETE DISTRIBUTIONS IN MODELLING BANGLADESH'S ENTERPRISES COUNT DATA IN THE FIELD OF BUSINESS ADMINISTRATION¹

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¹ This study is a part of Mohamad Alnakawa's Ph.D. Thesis entitled "Modelling Count Data Using Some Distributions from Generalized Additive Models with Applications in R-Programming" supervised by Assoc.Prof.Dr.Neslihan İyit continuing in Selcuk University, Institute of Science, Statistics Department.

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Statistics is an important branch of science that plays a mediating role in transforming data in all areas of life into useful information through stochastic models. Social researches rely heavily on determining the statistical relationships between response variable and explanatory variables of the social events of the societies and especially conducting experiments on human behaviors (Sirkin, 2006) Statistics has also an important and significant role in the fields of geography, agriculture, environment and etc. through statistical analyses of tourism, industry, trade, business and etc. (Zhang et al. 2020; Acevedo, 2012).

In statistics, generalized linear model (GLM) introduced by Nelder and Wedderburn (1972) is a flexible generalization of traditional linear regression model that allows the response variable to have other distributions than the normal distribution (Olsson, 2002; Hilbe, 2011)

Generalized additive models for location, scale and shape (GAMLSS) assuming that the response variable may come from a wide range of distributions in the family of GAMLSS was introduced by Hastie and Tibshirani (1987) and is an important and flexible statistical tool for especially statistical analysis of count data. The superiority of the GAMLSS model family over GLMs family is assuming that each parameter of the chosen distribution in the GAMLSS family has an individual link function for each of this parameter as a linear or non-linear function of the explanatory variables. On the other hand, in GLM family, the main focus is only on the mean of the response variable. So modelling each parameter

as location, scale and shape, in the aspect of the explanatory variables makes GAMLSS family a more flexible tool than the GLM family (Rigby et al., 2019; Machsus et al., 2015).

Suppose that Y is a discrete or continuous random variable for $i = 1, 2, 3, \dots, n$ independent observations following a probability mass function or probability density function with four parameters as a general form given as follows (Stasinopoulos et al., 2018);

$$Y_i \sim D(\mu_i, \sigma_i, \nu_i, \tau_i) \tag{1}$$

where μ_i, σ_i, ν_i and τ_i represent parameters of any distribution belonging to the GAMLSS family.

The link functions belonging to the parameters $\mu_i, \sigma_i, \nu_i, \tau_i$ of the distribution in the GAMLSS family in Eq. (1) can be given as follows;

$$\begin{aligned} g_1(\boldsymbol{\mu}) &= \eta_1 = \mathbf{X}_1\boldsymbol{\beta}_1 + \sum_{j=1}^{J_1} s_{1j}(\mathbf{x}_{1j}) \\ g_2(\boldsymbol{\sigma}) &= \eta_2 = \mathbf{X}_2\boldsymbol{\beta}_2 + \sum_{j=1}^{J_2} s_{2j}(\mathbf{x}_{2j}) \\ g_3(\boldsymbol{\nu}) &= \eta_3 = \mathbf{X}_3\boldsymbol{\beta}_3 + \sum_{i=1}^{J_3} s_{3j}(\mathbf{x}_{3j}) \\ g_4(\boldsymbol{\tau}) &= \eta_4 = \mathbf{X}_4\boldsymbol{\beta}_4 + \sum_{j=1}^{J_4} s_{4j}(\mathbf{x}_{4j}) \end{aligned} \tag{2}$$

where $g_k(.)$ are the known link functions between the parameters of the distributions and the linear predictor. \mathbf{X}_k represents the design matrices of the explanatory variables. $\boldsymbol{\beta}_k$ is the parameter vector and S_{kj} is a smooth non – parametric function of \mathbf{X}_{kj} (Stasinopoulos et al., 2018).

Generalized additive models (GAMLSS) are used in a variety of fields such as medicine (Bann et al, 2022), geography (Kinross et al., 2020), economic (Ayele and Shifa, 2017), biology and environment (Costa et al., 2022), natural disasters (Qu et al., 2020), climate and epidemiology (Karim and Akter, 2022), wheather forecasting (Dantas et al., 2020), health service (Mateo-Abad et al., 2022) .

Poisson Distribution

Poisson distribution introduced by Siméon-Denis Poisson (1838) is one of the most commonly used distributions in the field of count data analysis (Hilbe, 2011). Let Y be a discrete random variable taking non-negative integer values such as $0,1,2,3,\dots$ that follows a Poisson distribution, then the probability mass function of this distribution with the mean parameter μ is given as follows;

$$f_Y(y; \mu) = P(Y = y) = \frac{\mu^y e^{-\mu}}{y!} \quad (3)$$

The expected and variance values of the response variable in Poisson distribution given in Eq. (3) are equal to themselves.

Negative Binomial Distribution

The probability mass function of the negative binomial (NB-2) distribution as a mixture of the Poisson and Gamma distributions, with the shape parameter $\alpha\mu$ and the scale parameter μ can be given as follows (Hilbe, 2011);

$$\begin{aligned}
 f_Y(y; \alpha, \mu) &= P(Y = y) \\
 &= \binom{\alpha\mu + y - 1}{\alpha\mu} \left(\frac{\alpha}{\alpha + 1}\right)^y \left(\frac{1}{\alpha + 1}\right)^{\alpha\mu}
 \end{aligned} \tag{4}$$

where $y = 0, 1, 2, 3, \dots$, $\mu > 0$ (McCullagh and Nelder, 2019). The values of the mean and variance of the NB-2 distribution are μ and $(\mu + \mu/\alpha)$ (Booth et al., 2003).

Holla (Poisson-Inverse Gaussian) Distribution

Holla distribution introduced by Holla (1966) known as the Poisson Inverse Gaussian distribution is a mixture of two distributions as Poisson distribution and the inverse Gaussian distribution. Probability mass function of the Holla distribution with (μ, σ) parameters is given as follows (Abramowitz and Stegun, 1965; Rigby et al. 2019);

$$P(Y = y | \mu, \sigma) = \left(\frac{2\alpha}{\pi}\right)^{\frac{1}{2}} \frac{\mu^y e^{\frac{1}{\sigma}} K_{y-\frac{1}{2}}(\alpha)}{y!(\alpha\sigma)^y}, \quad y = 0, 1, 2 \dots \tag{5}$$

where $\mu > 0, \sigma > 0, \alpha^2 = \sigma^{-2} + 2\mu\sigma^{-1}$ and $\alpha > 0$. $K_y(\cdot)$ is the modified Bessel function of the second kind as;

$$K_y(t) = \frac{1}{2} \int_0^\infty x^{y-1} \exp\left[-\frac{1}{2}t(x+x^{-1})\right] dx. \tag{6}$$

The mean and the variance of Holla (Poisson-Inverse Gaussian) distribution can be given as $E(Y) = \mu$ and $Var(Y) = \mu + \sigma\mu^2$.

Sichel Distribution

Let Y be a random variable following Sichel distribution with parameters (μ, σ, ν) . The probability mass function of the Sichel distribution can be given as follows (Rigby et al., 2019) ;

$$\begin{aligned} P(Y = y | \mu, \sigma, \nu) &= \frac{(\mu/b)^y K_{y+\nu}(\alpha)}{y! (\alpha\sigma)^{y+\nu} K_\nu(1/\sigma)}, y \\ &= 0, 1, 2, \dots \end{aligned} \quad (7)$$

where

$$\alpha^2 = \sigma^{-2} + 2\mu(b\sigma)^{-1}, b = \frac{K_{\nu+1}(1/\sigma)}{K_\nu(1/\sigma)}$$

$$\mu > 0, \sigma > 0, -\infty < \nu < \infty.$$

$K_\nu(\cdot)$ is the modified Bessel function of the second kind given in Eq. (6) (Abramowitz and Stegun, 1965). The mean and variance values of the Sichel distributions can be given as follows (Rigby et al., 2008);

$$E(Y) = \mu \text{ and } Var(Y) = \mu + \mu^2 g_1$$

where $g_1 = \frac{2\sigma(\nu+1)}{b} + \frac{1}{b^2} - 1$.

After giving basic information about some discrete distributions from GAMLSS family used in this study, some link functions are defined for each parameter of these distributions to construct some count regression models in GAMLSS family .

Table 1. Some Discrete Distributions from GAMLSS family with link functions (Stasinopoulos and Rigby, 2008)

Distributions	μ	σ	ν
Poisson	log	–	–
Negative Binomial II (NB-II)	log	log	
Sichel	log	log	identity
Poisson-Inverse Gaussian	log	log	–

Diagnostics for Model Checking in the GAMLSS Family

Some count regression models in the GAMLSS family used in this study are very sensitive to the theoretical assumptions of the GAMLSS family for count data, especially if it is intended to make predictions from the model (Hilbe, 2011). For this aim, in this study, information criteria as AIC and BIC can be used as goodness-of-fit test statistics (Akaike, 1974; Schwarz, 1978).

Residuals for Model Checking in the GAMLSS Family

One of the most important criteria in the diagnosis of some count regression models in the GAMLSS family used in this study is randomized quantile residuals graph checking. The following assumptions are to be met by the residuals to ensure the suitability of the count regression model as follows (Cox and Snell, 1968; Stasinopoulos et al., 2008); (i) The randomized quantile residuals are independent, (ii) The randomized quantile residuals follow a standard normal distribution.

An Application on Some Count Regression Models in GAMLSS Family in Modelling Bangladesh's Enterprises Data

The data used in this study includes 1724 enterprises in Bangladesh taken from the website <https://microdata.worldbank.org>. The response and the explanatory variables used in this study are given in Table 2.

Table 2. The response and the explanatory variables used in the study to model Bangladesh's enterprises count data in the field of business

Variable Symbol	Variable Explanation	Variable Type
CNTW	Current number of total workers	Response
Age	Age of the Principal Owner	Explanatory
Land	Is the land your business operates on(1: commercial land,2: non-commercial land, 3: Private land)?	Explanatory
Gender	Gender of Principal Owner (1:male, 2:female)	Explanatory
Years	Years of formal education	Explanatory

For 1724 enterprises in Bangladesh used in this study, the frequencies and percentages of the categorical explanatory variables are given in Table 3.

Table 3. Frequencies and percentages of the categorical explanatory variables used in this study for 1724 enterprises in Bangladesh business count data

		Frequency	Percent(%)	Valid Percent(%)
Land	1	1391	80.7	80.7
	2	311	18.0	18.0
	3	22	1.3	1.3

Gender	Total	1724	100.0	100.0
	1	1699	98.5	98.5
	2	25	1.5	1.5
	Total	1724	100.0	100.0

From 1724 enterprises surveyed in Bangladesh, the percentages of the “type of land” explanatory variable used in this study are 80.7%, 18 %, and 1.3% as commercial land, non-commercial land, and private land, respectively. On the other hand, the percentages of the the “gender of principal owner” explanatory variable used in this study are 98.5%, and 1.5 % as male and female, respectively.

For 1724 enterprises in Bangladesh used in this study, the descriptive statistics of the count explanatory variables are given in Table 4.

Table 4. Descriptive statistics for the count explanatory variables used in this study for 1724 enterprises in Bangladesh business count data

	N	Min.	Max.	Mea n	Std. Dev.
Age	1724	18	85	41.86	11.001
CNTW	1724	0	2330	13.08	73.300
Years	1724	0	18	9.75	4.497

From 1724 enterprises surveyed in Bangladesh, the minimum, maximum and mean values of the “age of the principal owner” explanatory variable used in this study are 18, 85, and 41.86 years old, respectively. The minimum, maximum and mean values of the “current number of total workers” explanatory variable are 0, 2330,

and 13.08 workers. On the other hand, “years of formal education” explanatory variable of the principal owner are 0, 18, and 9.75 years, respectively.

For the aim of modelling Bangladesh’s enterprises count data in the aspect of GAMLSS family, as the starting point of modelling, Poisson and NB-II count regression models are taken into consideration as stated in Saffari and Adnan (2011). All the statistical analyses are done using R-studio Version 4.0.3 programme. Maximum likelihood (ML) method depending on the RS algorithm (Rigby and Stasinopoulos, 2005) is used in estimating the parameters of the Poisson, NB-II, Holla (Poisson-Inverse Gaussian), and Sichel count regression models through GAMLSS package in the R-programme.

Poisson regression model with log-link function results for 1724 enterprises in Bangladesh business count data are given in Table 5. From Table 5, the age of the principal owner, private land of the business, principal owner being female, and years of the principal owner’s formal education are found statistically significant at $\alpha = 0.05$ significance level.

Table 5. Poisson regression model results in the GAMLSS family for 1724 enterprises in Bangladesh business count data

```

Poisson regression model:

Mu link function: log
Mu Coefficients:
      Estimate Std. Error t value Pr(>|t|)
(Intercept) -1.1013813  0.0350183 -31.452 < 2e-16 ***
Age          0.0444294  0.0005618  79.089 < 2e-16 ***
Land2       -0.0067510  0.0183178  -0.369  0.71251
Land3       0.5146122  0.0524047   9.820 < 2e-16 ***
Gender2     0.1425244  0.0452929   3.147  0.00168 **
Years       0.1503791  0.0015968  94.174 < 2e-16 ***
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
    
```

By using the parameter estimates given in Table 5, link function belonging to the parameter of Poisson regression model can be given as follows;

$$CNTW \sim Poisson(\hat{\mu})$$

$$\log(\hat{\mu}) = -1.10 + 0.04(Age) + 0.51(land = 3) + 0.14(Gender = 2) + 0.15(Years) \tag{8}$$

Negative Binomial (NB-II) regression model results with log-link functions belonging to the parameters for 1724 enterprises in Bangladesh business count data are given in Table 6. From Table 6, to construct the $\log(\hat{\mu})$ link function, the age of the principal owner, principal owner being female, and years of the principal owner’s formal education are found statistically significant at $\alpha = 0.05$ significance level. On other hand, to construct the $\log(\hat{\sigma})$ link function, the age of the principal owner, non-commercial land of the business, principal owner being female, and years of the

principal owner's formal education are found statistically significant at $\alpha = 0.05$ significance level.

Table 6. Negative Binomial (NB-II) regression model results in the GAMLSS family for 1724 enterprises in Bangladesh business count data

```

Negative Binomial-II regression model:

Mu link function: log
Mu Coefficients:
      Estimate Std. Error t value Pr(>|t|)
(Intercept) -0.458791  0.140544  -3.264  0.00112 **
Age          0.041680  0.003255  12.803 < 2e-16 ***
Land2       0.138870  0.082564   1.682  0.09276 .
Land3       0.101781  0.307538   0.331  0.74072
Gender2     0.981644  0.321747   3.051  0.00232 **
Years       0.098859  0.006522  15.158 < 2e-16 ***

Sigma link function: log
Sigma Coefficients:
      Estimate Std. Error t value Pr(>|t|)
(Intercept) -1.645749  0.231550  -7.108  1.73e-12 ***
Age          0.060266  0.005348  11.268 < 2e-16 ***
Land2       0.512040  0.123759   4.137  3.68e-05 ***
Land3       0.669189  0.437887   1.528  0.126642
Gender2     1.535071  0.406967   3.772  0.000167 ***
Years       0.162809  0.010174  16.003 < 2e-16 ***
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

```

By using the parameter estimates given in Table 6, link functions belonging to the parameters of NB-II regression model can be given as follows;

$$CNTW \sim NBII(\hat{\mu}, \hat{\sigma})$$

$$\log(\hat{\mu}) = -0.45 + 0.04(Age) + 0.98(Gender = 2) + 0.15(Years)$$

(9)

$$\log(\hat{\sigma}) = -1.64 + 0.06(\text{Age}) + 0.51(\text{land} = 2) + 1.53(\text{Gender} = 2) + 0.16(\text{Years})$$

(10)

Sichel regression model results with log-link functions for the parameters μ and σ , and also identity link function for the parameter ν for 1724 enterprises in Bangladesh business count data are given in Table 7. From Table 7, to construct the log-link function for the parameter μ ; the age of the principal owner and years of the principal owner's formal education are found statistically significant at $\alpha = 0.05$ significance level. None of the explanatory variables are found statistically significant for the log-link function for the parameter σ , and identity link function for the parameter ν at the same significance level.

Table 7. Sichel regression model results in the GAMLSS family for 1724 enterprises in Bangladesh business count data

```

Sichel regression model :

Mu link function: log
Mu Coefficients:
      Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.975077   0.159612   6.109 1.24e-09 ***
Age          0.022817   0.002487   9.173 < 2e-16 ***
Gender2      0.249503   0.222849   1.120  0.2630
Years       0.049507   0.006503   7.613 4.39e-14 ***
Land2      -0.129627   0.077019  -1.683  0.0925 .
Land3      -0.245453   0.277235  -0.885  0.3761

Sigma link function: log
Sigma Coefficients:
      Estimate Std. Error t value Pr(>|t|)
(Intercept)  2.3358     0.4807   4.859 1.28e-06 ***

Nu link function: identity
Nu Coefficients:
      Estimate Std. Error t value Pr(>|t|)
(Intercept) -1.26591   0.05751  -22.01 <2e-16 ***
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
    
```

By using the parameter estimates given in Table 7, the link functions belonging to the parameters of the Sichel regression model can be given as follows;

$$CNTW \sim Sichel(\hat{\mu}, \hat{\sigma}, \hat{\nu})$$

$$\log(\hat{\mu}) = 0.97 + 0.02(Age) + 0.04(Years) \tag{11}$$

$$\log(\hat{\sigma}) = 2.33 \tag{12}$$

$$\hat{\nu} = -1.26 \tag{13}$$

Poisson-Inverse Gaussian regression model results with the log-link functions for 1724 enterprises in Bangladesh business count data are given in Table 8. From Table 8, to construct the log-link

function for the parameter μ , the age of the principal owner, principal owner being female, and years of the principal owner’s formal education are found statistically significant at $\alpha = 0.05$ significance level. On other hand, to construct the log-link function for the parameter σ , the age of the principal owner, non-commercial land of the business and years of the principal owner’s formal education are found statistically significant at $\alpha = 0.05$ significance level.

Table 8. Poisson-Inverse Gaussian regression model results in the GAMLSS family for 1724 enterprises in Bangladesh business count data

```

Poisson.Inverse.Gaussian regression Model :

Mu link function: log
Mu Coefficients:
      Estimate Std. Error t value Pr(>|t|)
(Intercept) -0.552743  0.195699  -2.824  0.00479 **
Age          0.046827  0.005344   8.762 < 2e-16 ***
Land2       0.134770  0.110859   1.216  0.22427
Land3      -0.059596  0.407940  -0.146  0.88387
Gender2     1.108848  0.542422   2.044  0.04108 *
Years       0.086932  0.008333  10.433 < 2e-16 ***

Sigma link function: log
Sigma Coefficients:
      Estimate Std. Error t value Pr(>|t|)
(Intercept) -1.72068  0.32057  -5.368 9.07e-08 ***
Age          0.04077  0.00811   5.027 5.50e-07 ***
Land2       0.60406  0.16941   3.566 0.000373 ***
Land3       0.64890  0.61038   1.063 0.287883
Gender2     1.11527  0.64778   1.722 0.085310 .
Years       0.07891  0.01387   5.690 1.49e-08 ***
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
    
```

By using the parameter estimates given in Table 8, link functions belonging to the parameters of Poisson-Inverse Gaussian regression model can be given as follows;

$$CNTW \sim PIG(\hat{\mu}, \hat{\sigma})$$

$$\log(\hat{\mu}) = -0.55 + 0.04(Age) + 1.10(Gender = 2) + 0.08(Years) \quad (14)$$

$$\log(\hat{\sigma}) = -1.72 + 0.04(Age) + 0.60(land = 2) + 0.07(Years) \quad (15)$$

Information criteria used as goodness-of-fit test statistics to compare count regression models in the GAMLSS family used in this study are given in Table 9.

Table 9. Using information criteria to compare count regression models in the GAMLSS family for 1724 enterprises in Bangladesh business count data

Type of Count Regression Model	Information Criteria	
	AIC	BIC
Poisson	65154.88	65187.59
NB-II	11334.43	11399.86
Sichel	10768.51*	10812.13*
Poisson -Inverse Gaussian	10800.42	10865.85

As can be seen from Table 9, the smallest information criteria indicates that Sichel regression model is determined as the best count regression model for 1724 enterprises in Bangladesh business count data.

For the GAMLSS family model diagnostic checking, randomized quantile residuals must follow standard normal

distribution to confirm the model is correct. For this aim, summary statistics of the randomized quantile residuals are given in Table 10.

Table 10. Summary statistics of the randomized quantile residuals for Sichel model for 1724 enterprises in Bangladesh business count data

Summary of the Randomized Quantile Residuals

Mean	0.00
Variance	0.96
Coefficient of skewness	0.03
Coefficient of kurtosis	2.99

For the graphical demonstration of the model diagnostic checking, randomized quantile residuals against the fitted values, randomized quantile residuals against index, kernel density estimate of the randomized quantile residuals and a QQ-normal plot of the randomized quantile residuals are given in Figure 1.

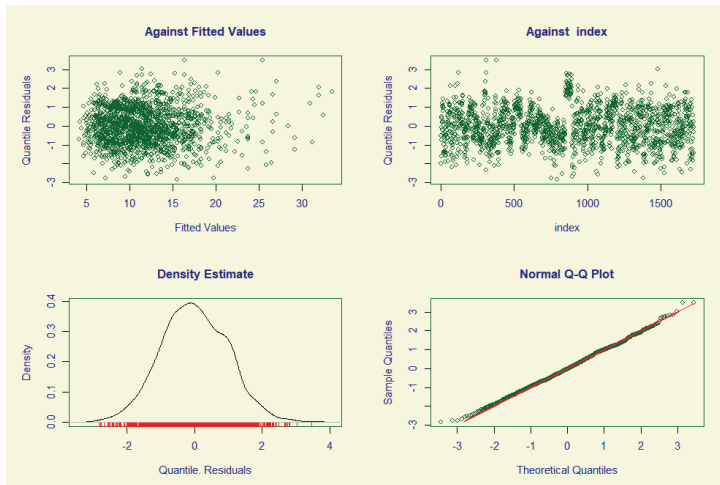


Figure 1. Randomized quantile residual plots for Sichel regression model for 1724 enterprises in Bangladesh business count data

Both from Table 10 and Figure 1, randomized quantile residuals of Sichel regression model in the GAMLSS family for 1724 enterprises in Bangladesh business count data, the mean of the randomized quantile residuals of Sichel regression model is found nearly zero. The variance of the randomized quantile residuals of Sichel regression model is found nearly one. The coefficients of the skewness and kurtosis of Sichel regression model are found nearly 0 and 3, respectively. As a result of these model diagnostics, 1724 enterprises in Bangladesh business count data fit to the Sichel regression model.

As a main empirical conclusion from this book chapter study, the log-link function for the parameter μ of the Sichel regression model for 1724 enterprises in Bangladesh business count data indicates that current number of total workers increases $e^{0.02} = 1.02$ times and $e^{0.04} = 1.04$ times by 1% changes in the age of the principal owner and in the years of the principal owner's formal education, respectively.

As a main statistical conclusion from this book chapter study, it can be said that the superiority of the GAMLSS model family over GLMs family is assuming that each parameter of the chosen distribution in the GAMLSS family has an individual link function for each of this parameter as a linear or non-linear function of the explanatory variables. So GAMLSS family is a more flexible tool than the GLM family.

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