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# A study on the balanced scorecard implementation of the SDIF

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#### Abstract

There are several management methods and tools transferred from private sector to public sector in order to attain efficiency and effectiveness with the movement of New Public Management. One of those methods is the Balanced Scorecard (BSC). While the BSC is highly recommended to both private and public organizations, it must be acknowledged that public organizations have a completely different structure and nature in some respects. Furthermore, developed countries' organizations could not have the same traits as developing countries' organizations do.

This is an empirical case study which aims to investigate and analyze the experience of the BSC implementation in Savings Deposit Insurance Fund (SDIF) -a kind of Financial Regulatory Organization (FRO)- from Turkey within focal points of applicability, success criteria, challenges, and benefits. In order to achieve this objective, qualitative research method was applied by analyzing organization's data and conducting interviews. This research concludes that the BSC concept has some unclear points both theoretically and practically. Also, it is not an easy and straightforward system to implement. On the other hand, it can be assessed as a beneficial tool for public organizations, particularly in developing countries, to get the habit of setting objectives, making plans to reach those objectives, measuring performance against those plans and reviewing.

## 1. Introduction

From the beginning of 1980s, the last phase of globalization- with advanced technologies- has forced business actors to act in a different way and take into consideration of multi-dimensional factors in order to sustain business viability and attain competitive advantage in such an ever changing competitive environment (Brooks et al., 2011). In this direction, it is not seen any more that performance measurement systems are only for measuring performance of managers, employees and departments but also they have multiple roles such as disseminating the organization's strategic objectives from top to bottom thereby motivating staff on achieving these objectives, enabling executives to utilize organization's resources efficiently and effectively in accordance with the organization's strategic priorities, and providing feedback on organization's overall performance and degree of customer and shareholder satisfaction (Atkinson et al., 2007).

Globalization not only affected the business environment and processes but it also affected public sector management. Since 1980s technological advances, globalization, changing social structures and preferences, increasing influence of media compelled, especially in the developed countries, governments to carry out public management reforms as New Public Management (NPM). Under this concept, theoreticians have suggested that private sector concepts, techniques, and values such as performance management, lean organizational structure and quality improvement techniques can be transferred to and implemented in the public sector to improve efficiency (Pollitt and Bouckaert, 2011). According to Niven's point of view (2008), the NPM became a current issue for governments due to aging population. Since, it will necessitate more public services such as health care;

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however, there will be a decrease in tax revenues due to decreasing proportion of young, active working population who pays taxes and retirement systems' premium. That's why it is mandatory for governments to use their money to acquire and provide much more benefit than the previous one. That is to say, productivity in public management started to take a significant place in governments' agenda and it is vital to measure the entire important thing which can influence management's decisions and results of activities (Niven, 2008). In this regard, one of the abovementioned techniques which has been begun to use in the public sector is the BSC. After its conceptualization in early 1990s, it has become the subject of both local and central government organizations' practices.

After their empirical research project, (Kaplan & Norton, 1992) conceptualized the Balanced Scorecard (BSC) as a brand-new performance measurement system with the assertion of giving "a fast and comprehensive view of the business" by balancing both financial and operational measures. They suggested that it has the ability to provide comprehensive view by putting the strategy and vision in the center rather than the control. Therefore the BSC enables organizations to suit the contemporary business environment not the one in the Industrial Age (Kaplan and Norton, 1992). According to Kaplan and Norton, the BSC is a very beneficial tool for providing connection between strategy and its implementation. In other words, it is a translation of strategy into action (Kaplan and Norton, 1993; 1996; 2004a; 2005).

In order to comprehend this method's popularity among business executives, Bain & Company's (Bain) research which has been conducted all over the world can be examined. Bain has been surveying executives around the world since 1993 to find out what kind of management tools are used and how effective they are. In their 15th Management Tools and Trends Survey they have obtained a database focusing on 25 management tools by approaching 13 thousands respondents from 70 countries all over the world. According to this survey, the BSC is the 6th mostly used management tool with 38% usage and 3.9 over 5 satisfaction point (Rigby & Bilodeau, 2015). And among the Fortune 1000 companies, the usage of the BSC was estimated much more higher than that percentage with 60% (Niven, 2008).

This is an empirical study upon the BSC implementation within a public organization in an emerging economy and with the objectives mentioned above, this research tries to seek answers for below questions:

- Is the BSC a successfully applicable tool for a public institution in an emerging economy?
- What are the challenges and issues during the implementation of the BSC in a public institution in one of the emerging economies?
- What are the critical success factors for the BSC application especially in terms of public institutions?

# 2. Literature

#### 2.1. The Concept of the BSC and the Strategy Maps

To begin with, (Kaplan and Norton, 2000) have founded their BSC concept upon the idea that financial successes are the results/effects (lead indicators) of certain activities/causes (lag indicators) under customer relations, internal processes, and learning and growth classifications. Hence, they designed this method to give senior managers a clear picture of their business from four different perspectives with a small number of measures (Kaplan and Norton, 1992). Thus, it is aimed to have a more holistic governance over organization and its activity area by eluding narrow point of view which bases upon only financial measurement.

The BSC, with those four perspectives, enables managers to align long-term strategic objectives with short-term initiatives by penetrating and communicating the vision and strategy with the integration of related objectives and measures inside the whole organization, integrating financial plans with business plans which allocates resources according to priorities and adjusting strategy with real-time learning (Kaplan and Norton, 1996).

Later on with their following studies Kaplan and Norton advanced their BSC method with the strategy map design which provides a visual linkage between the objectives, measures and initiatives within four perspectives in order to reach ultimate objective thereby converting intangible assets to tangible results (Kaplan and Norton, 2001b). From then on, they have started to express that the BSC is a strategic management system instead of a performance measurement tool.

It is important to set a winning strategy but it is much more important to implement this strategy while majority of the organizations have problems with strategy execution. Also, there are four barriers in front of this success: Vision (no understandable vision within the organization), people (no link between incentive compensation and long term strategy), executives (no enough time to split strategy and its communication) and resource (no link between budget and strategy) (Niven, 2008).

In that regard, it can be seen that (Kaplan and Norton, 2001a) propose to follow a sequence in this method during implementation which starts with articulating organization's mission, core values, vision and strategy. Thus, management team can identify what reason their organization exists for (mission), what they and their staff believe (core values), what they want their organization to be in the future (vision) and what is their game plan to carry their organizations from current position to envisaged future position (strategy). Second step is communicating identified strategy from top to bottom of the organization and linking it to divisional and personal objectives via prepared scorecards for these units; therefore, executives can attain the ability of steering whole organization towards identified vision and long term objectives (Kaplan and Norton, 1996). In this respect, measures can play a significant role to convert articulated objectives to a clear and a specific form (Atkinson et al., 2007). Furthermore, this process should be iterative in order to give a participative sensation to employees and establish a clear understanding of their role within the overall strategy (Olve et al., 1999). The third step is integrating business and financial plans in order to canalize the organization's limited resources for achieving overall long-term objectives rather than diverse and conflicting individual objectives. This step includes eliminating activities which are not contributing to the strategy and corporate change program (Kaplan and Norton, 1996). The final step is reviewing the accomplishments and active learning from implementation (Kaplan and Norton, 1996). It is a prerequisite to have a well-established, user-friendly and not over-complicated systems and IT infrastructure which enable organization to collect necessary data (Olve et al., 1999).

Organizations should structure their strategy maps by putting financial objectives at the top. Then, they should decide their value proposition which enables to realize those financial objectives. Consequently, they have to clarify processes which provide that value proposition and identify needed intangible assets such as human, information and organizational resources (Kaplan ve Norton, 2004b, 2006).

#### 2.2. Criticism to the Concept

According to some scholars, the BSC is not a new method, it is a version of Peter Drucker's Management by Objectives (MBO) (Dinesh and Palmer, 1998) or it is not so different from French's Tableau de Bord (Bourguignon et al., 2004; Bessire and Baker, 2005). However, (Carpenter et al., 2013) mention that although the BSC fundamentally was founded upon the MBO's idea of bridging between organization's and employees' objectives, the BSC has been filling the gap inside the MBO framework such as long-term focus, customer orientation, and the connection between organization's vision, objectives, targets and strategy.

Moreover it can also be perceived more fiction than a fact with its hyperbolic structure and attributed consequences (Radnor and McGuire, 2004). Also, it is difficult to develop a cause-and-effect relationship within the BSC and there is not any specific tool to make this process easier (Othman et al., 2006). In this respect, (Gatti, 2015) mentions difficulties which are not only caused by limited familiarity of using non-financial indicators, but also inadequate knowledge and culture of intangible assets which affect company's performance as well as the role of current information system by investigating an Italian company in his study. He observed that there was a poor motivation among people in the company when they were faced to measure indicators linked closely intangible assets, and in some cases this negative motivation caused elimination of some indicators even though they were deemed as essential for monitoring strategic performance (Gatti, 2015). In some other cases, such as knowledge works, due to its inherent complex nature it is very difficult to measure performance, even it becomes worst when taking into account time gap between knowledge workers' activities and consequences of these activities (Wake, 2015).

There are some critics to Kaplan and Norton's concept especially from Nordic and Germanic countries. In fact, this indicates another aspect of cultural differences which can affect comprehension of the method as well as implementation experiences. One of the main opponents, (Norreklit, 2003), stresses that the BSC is a hyperbole and conceptually unclear model which became popular with its attractive narration and she brings criticism in several aspects. First, this system depends on cause-and-effect relationship which is logical but cannot be verified or determined empirically (Norreklit, 2000). Second, this concept is lack of monitoring of the competition and technological developments. Third, the formulation of the BSC is hierarchically top-down processes. Finally, it contains control features which are not rooted in a dynamic environment or in the organization (Norreklit, 2003). Moreover, an empirical study which surveyed BSC implementation of publicly traded 174 companies in German speaking countries, deduces that only 26 per cent of companies were using the BSC, most of those used a limited version of it, even one third of these companies did not have learning and growth perspective, only half of them linked their objectives and measures in a cause-and-effect relationship (Speckbacher et al., 2003).

# 2.3. The BSC Implementation in Non-profit and Public Sector Organizations (NPGO)

(Kaplan and Norton, 2001a) consider that BSC can be a useful and applicable tool for non-profit and government organizations (NPGO) with some adjustments from one designed for private sector firms. In fact, it is suggested to have two sided adaptation. The first one is the adaptation of the BSC which is initially conceptualized for

private sector organizations (Kaplan and Norton, 2001a) and the second one is the internal adaptation of NPGO (Othman et al., 2006) which has some major differences from private sector organizations.

According to Kaplan and Norton (2001a), NPGOs should reconsider financial and customer perspectives in a different way from the private sector companies. The exact customer would be the whole citizens who get benefits from the activities of those institutions. Thus, it is suggested for a public sector institution to have three most important objectives as creating value, lowering the cost incurred, and meeting the objectives and getting support from legislation authority which is ultimately citizens and taxpayers. Above all, it should be considered to have an overarching long-term objective depending on the institution's activity area (Kaplan and Norton, 2001b). For instance, if the organization is a publicly owned general education organization, long-term objective can be considered as reducing the illiteracy or for a financial regulatory organization, it can be ensuring sound financial system and sustainable economic growth in citizens' welfare.

On the other hand, in Radnor and McGuire's (2004) research they investigate two public institutions' performance management systems, one of them is the BSC and they conclude that these kinds of tools are turned into diagnostic rather than interactive after their introduction in public sector organizations. They argue that even though performance management needs effective and interactive managers, civil servants are administrator rather than a manager in this respect. Those organizations are lack of target consideration, baseline assessment, and ownership. Several scholars and researchers have been investigating the problems and difficulties in the successful application of the BSC in NPGOs as well as solutions and suggestions. Below, several of them are taken particularly from case studies in order to give specific examples of difficulties and problems.

To begin with, there is a case study of (Sharma & Gadenne 2011) that investigates BSC implementation in an Australian large local government organization. In this study, researchers deduce that there are several needs and challenges during this implementation. First of all, there are difficulties in structuring KPIs because of not having clear guidelines in such a complex organization. Secondly, it needs frequent, timely and efficient reviews and assessments as well as a better performance evaluation and staff motivation system which is incorporated with proper reward system. Thirdly, it requires an efficient information system which enables consistent and accurate data collection and measurement. Finally, there is a challenge in measuring outcomes and having appropriate employee capabilities.

By analyzing 48 local government organizations in their survey, (Northcott & Taulapapa 2012) have revealed two contributive factors to have a success in the public sector BSC application. These factors are modification of the framework according to organization's structure and proper education both before and during the implementation. Also they have identified three fundamental problems. The first one is lack of strategic point of view within the public sector which is the main pillar of the BSC framework. The second problem is having difficulties in setting causal relationship as Kaplan and Norton's strategy map has. The final problem is adaptation of the BSC's unsuitable and theoretical structure to public sector's context and practices specifically regarding outcome focused philosophy, specification of customer, identification of BSC's perspectives, and working with fewer KPIs. According to their findings; in public sector where there is a perception of having external power influences such as legislation, policy and politics instead of clear strategic direction, it is very difficult to establish causal relationships (Northcott and Taulapapa, 2012). Besides, they suggest several prerequisites for a successful implementation of the BSC. These are clear organizational strategy and goals, senior management commitment, employee acceptance and involvement, emphasis on performance excellence, sufficient training, a simple design with appropriate KPI's, links to reward program, adequate resourcing and perseverance to deal with resistance to change within in the organization (Northcott and Taulapapa, 2012). In addition to these, (Umashev & Willet, 2008) emphasize the importance of effective communication supported by powerful and engaged leadership, efficient feedback, and employee authorization.

#### 3. Methodology

# 3.1. Research Philosophy and Design

It is aimed to clarify whether the BSC is a valuable tool for a public sector organization in one of the emerging countries by harnessing the data of the organization and experiences and opinions of the implementers within that organization. In this direction, when the researchers looked the questions which (Saunders et al., 2012) stated in their books, in order to specify the underlying research philosophy, they realized that it is rather interpretivist and pragmatist research. According to (Saunders et al., 2012), the practical results of research findings or an idea are more important to pragmatist and there are ways in such a variety for interpreting the environment and maybe it is necessary to have a multi-dimensional point of view to get the big picture. In the meantime, it has some subjectivist aspects since the research question is about public sector organization and human perceptions and interactions play critical roles in an application of a management tool. In some respects, it is necessary to consider human realities behind the activities (Saunders et al., 2012). On the other hand, it is

not a positivist or realist research while it does not rely on totally observable realities and it does not have law-like generalization as natural scientists have.

As mentioned above, this research's philosophy is much closer to interpretivism. Since interpretivism description of (Saunders et al., 2012) is more valid for this research due to the fact that it is more related to differences between people rather than objects. Furthermore, it relies on interpretation of other people's social roles from the researchers' point of view. Additionally, interpretivism can be considered as more appropriate in this case study which has a complex and unique nature with different social interaction and circumstances.

As conducting an exploratory case study research upon identified research question, researcher used his observations over documents and reports even including interviews to find answers to the research question. Hence, he studied various aspects and attained a holistic view of implementation of the BSC in a public sector organization (Baker and Foy, 2008). Thus, it was aimed to shed light to unique implementation features, challenges, and benefits of the BSC -one of the strategic management tools- in an emerging economy's public sector organization (Bryman and Bell, 2007).

## 3.2. Data Collection and Methods of Analysis

One of the data resources is the subject organization's documents such as annual reports, internal presentations, strategic management reports, application documents and so on, and the other resource is the interviews.

The researchers have planned to conduct interviews after getting some insights of the BSC implementation in subject organization. That's why they preferred to gather organizational documents by approaching to one of that institution's Strategy Development Department (SDD) personnel who is responsible for supervision of the BSC (or other strategic measurement system) within the organization. Thus, they could get some initial understanding of background and history of both organization and its implementation of strategic measurement/management systems. While, some of those presentations are about introduction of new methods beginning from 2005, some of them are assessments of methods even comparatively and the others include future projections. Therefore, they are beneficial to see initiations, self-assessments, and intentions regarding the performance management systems within those presentations.

In line with the structure of the research, it is decided to use semi-structured interview method to understand not only 'what' and 'how' but also 'why' (Saunders et al., 2012, pg 376) because of the complex traits of the research area (Easterby-Smith et al., 2012). Eleven employees were selected from subject institution one of them was above mentioned staff of SDD and the others were people who were responsible of coordination and supervision of the strategic performance measurement (BSC) implementation in their own department. Thus, it is aimed to comprehend and provide insight into both corporate and unit level implementation in this institution. E-mails were used as communication means to approach interviewees thereby intending to give enough space and time for thinking upon questions asked. Debriefing and participant information forms were sent with interview questions to give information about the research and ethic and security issues as well as consent forms to take their approval for participation. There are 13 units in this organization one of these units is secretariat of the board of organization. The researchers contacted 11 of aforementioned representatives. One of them was responsible from two units and the researchers did not take representative of board secretariat into consideration.

Open-ended questions were used to get reflection of respondents' opinions and experiences. Success criteria and suggested prerequisites for the BSC implementation were identified from literature review. It was aimed to clarify by means of interviews whether those criteria and prerequisites were taken place in this subject organization. Main criteria were identified as having a clear strategy and goals, understanding organization's strategy by whole staff, leadership-senior management commitment, communication and training, linking to reward/incentive schemes, employee acceptance/commitment/empowerment. The questions which were asked to personnel of SDD were different from the ones asked to unit representatives in respect of organizational implementation. The others' questions were more related to their unit and individual implementation. 9 of 11 representatives replied those questions and these 9 respondents are assessed as sufficient by the researchers to obtain related information, opinions, and experiences.

As an analysis method, grounded analysis was decided to use in this study. According to (Easterby-Smith et al., 2012), grounded analysis is more holistic than the content analysis. In this method data explains everything and guides the researchers to have a better comprehension. It takes into account historical and cultural dimensions as well. In this context, the researchers appraise to (Easterby-Smith et al.,'s 2012) seven fundamental stages which are familiarization, reflection, conceptualization, cataloguing concepts, re-coding, linking, and re-evaluation.

#### 4. Findings and Analysis

New Public Management (NPM) approach, which has come into existence in 1980s in the major Anglophone countries as a result of efficient public management seeking, has spread to other OECD and even to developing countries in 1990s via World Bank and IMF (Erkan, 2008). In this respect, a research was conducted in Turkey in order to find the problems and solution proposals to those problems. Four gaps have been identified as fundamental problems of Turkish public management in output report. Those gaps were strategic gap, budget gap, performance and trust gap. Strategic gap was described as problems which were caused by short-sighted and day-to-day activity focused public management instead of managing their future with long-term vision and adaptation to external environment. In this direction, "The Fundamental Principles of Public Management and Its Restructuring Law" was approved in the parliament in 2004 (Erkan, 2008). With this law it was projected to establish 'Strategy Development Departments' within the public organizations in Turkey. Those departments were assigned to deal with four main functions which were strategic management and planning, performance and quality measures development, management information system establishment, and financial services (Akdeniz, 2010). In this respect, the Strategy Development Department (SDD) within the SDIF was founded at the end of 2004.

Corporate performance management and strategic planning has been conducting since year 2005 under the coordination of SDD with the participation of all departments of SDIF. The strategic plans are prepared for three-year period. The SDIF's strategic direction, strategic objectives, and targets are identified by senior management for the next period. Moreover, corporate performance assessment meetings are held every year at least once under the name of 'Strategy Summits' thereby reviewing SDIF's success both in corporate and departmental levels and making assessments for the next year. The development of the strategic management within the SDIF will be given under below subtitles in terms of historical periods.

#### 4.1. Strategic Planning and Historic Improvement of Strategic Measurement/Management within SDIF

#### 4.1.1 2005-2007 Period: Corporate Development Plan

In the first planning period which was covering the years between 2005 and 2007, 'Corporate Development Plan (CDP)' was implemented as a performance management method. Within this method SDIF's vision, mission, strategic objectives, and targets were identified and both corporate and departmental development plans were prepared. The vision was identified as "Presenting a Success Story to Turkey" for this period. There were two levels as corporate and department. In the corporate level plan, the vision of the organization was emphasized and it was expounded with four strategic objectives. Two of these objectives were regarding the two main activity areas of SDIF, one was about reorganization in accordance with contemporary management approaches and the final one was regarding establishing efficient intercommunication and collaboration among both regional and international counterparts and related organizations. Then, strategic targets were specified in order to achieve identified strategic objectives and performance targets were clarified below strategic targets (Figure 1).



Figure 1. Hierarchy of Vision, Objectives, Targets, and Activities in CDP (Institution's reports and presentations)

On the other hand, unit level development plans (ULDP) were prepared under the coordination of SDD based on corporate level CDP. Appropriate performance targets were shared with the units by taking the units' activities into consideration. Activities/projects which were necessary for reaching established performance targets were clarified; and then steps for those activities/projects were identified and dated (Figure 1). The responsibility of conducting ULDPs belonged to vice president of institution and the unit managers. Also, there were

representatives of ULDP who were responsible for monitoring constantly targets, activities/projects, activity/project steps and their finishing times. Therefore, they could be a communication link between unit and SDD.

The implementation of CDP was successfully completed at the end of 2007 and it was attributed as an important step for SDIF to have a mentality of working with targets and plans within the organization. All of the strategic activities were recorded since it was also significant to establish organizational memory. However, CDP implementation in SDIF had some disadvantages. First, it had difficulties in setting quantifiable targets thereby having unsound monitoring and assessment. Second, it turned from departmental plans into detailed job plans rather than strategically important projects or activities. Third, it was unable to update and revise dynamically. Finally, there were problems in information stream, and it allowed only manual monitoring. Because of all those reasons a new corporate performance management tool, Balanced Scorecard (BSC), was decided to implement for the next 2008-2010 period.

#### 4.1.2. 2008-2010 Period: Balanced Scorecard

For the 2008-2010 period, the organization's vision was identified as "Being an active and leader organization in maintaining international financial stability with strategy focused and dynamic management concept". The values were specified as "safety and stability, effective risk management, readiness, efficiency and collaboration".



**Figure 2.** Hierarchy of Vision, Priorities, Targets, and Indicators in the BSC (Institution's reports and presentations)

SDD and the management have specified four perspectives and strategic objectives under those perspectives which can be seen hierarchically as below Strategy Map (Figure 3). There were also strategic targets/KPIs in a number of between four and eight under each objective and they were correlated to departments. In other words, corporate level BSC was built according to the Corporate Strategy Map (Figure 3). Then yearly unit level BSCs were created from the corporate level BSC. Namely, the BSC implementation was cascaded down to unit level thereby identifying strategic projects/activities according to the units' responsibility areas and after clarifying the steps of strategic project/activity, responsible employees were assigned to those steps. In fact, it was not a kind of individual scorecard preparation as prescribed in the BSC's original version in literature rather it is simply an identification of responsible employees.

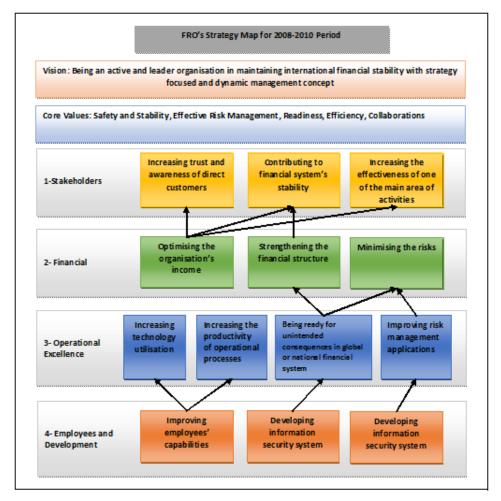


Figure 3. SDIF's Strategy Map for 2008-2010 Period (Institution's reports and presentations)

When the BSC is compared with the previous method CDP, it can be seen that it is less detailed but it has only quantitative performance indicators rather than qualitative ones. In this respect, the BSC challenged the units, since the established approach in the organization is to express themselves with words rather than numbers. That's why there have been various difficulties during identifying performance targets and measures; therefore, there were incompatible targets with some units' performance in their scorecards. The problems which were faced during the implementation of the BSC are as follows:

- There were difficulties in both identification of performance measures and understanding general system working,
- The performance measurement system became objective of the units although it must be a means in successful strategic management (trying to increase the scores by playing with numbers).
- The system was very complicated to implement when compared with the organization's current planning habit,
- The method did not gain adequate acceptance from all employees and managers.

# 4.1.3. 2011-2013 Period and After: Corporate Development Program

After some evaluations, a conclusion was reached that the organization could obtain efficiency in performance management with a new system which incorporated strong parts of CDP and BSC. Thus, after some investigations and evaluations a new organizational performance management model was designed and called "Corporate Development Program (CDPr)". In this model, it was proposed to use two types of measures, qualitative and quantitative. Quantitative measures would be used if job specification was suitable to convert into numeric; otherwise, there would be a qualitative evaluation and a verbal explanation would be inserted.

For the period of 2011-2013, the vision of the SDIF was identified and accepted as 'Being a model institution with SDIF's implementation in its key activity areas' and SDIF's core values were specified as 'being fair,

credibility, transparency and accountability, collaboration and participation, result-oriented, and efficiency and productivity'. Under first objective/perspective there were two strategic targets as 'Increasing trust and awareness of public' and 'Being among the best implementer and leader in this area (the first key activity area) all over the world'. The second objective/perspective was including the targets of 'Improving the preparation and the processes of this activity area (the second key activity area) and 'Optimizing the revenues and expenditures of this activity area'. Finally, there were four strategic targets under the last objective/perspective which were 'Improving the corporate governance implementations', 'Activating the financial management implementation', 'Increasing competencies and motivation of employees' and 'Improving internal and external communication and collaboration'.

# 4.2. Analysis of SDIF's Implementation in Terms of Success Factors of the BSC

It was aimed in this research study to provide critical reviews and analysis of the organization and the BSC. Additionally, it was aimed to present suggestions for that organization by seeking answers to the research questions. As previously mentioned, the research questions are prepared to find out if the BSC is a successfully applicable tool for a public institution in an emerging country. Furthermore, it is intended to determine what challenges and issues arise during the implementation of the BSC and what the critical success factors are for the BSC application in that kind of organizations. In this part, above information as well as opinions from interviews will be analyzed in terms of aforementioned research questions under below subtitles.

# 4.2.1. Design of the BSC

Some interviewees stated that CDPr is a kind of adapted version of the BSC to this organization which is in parallel with the researchers' observation and which is strongly recommended for non-profit and public organizations by Kaplan and Norton (2001b). In addition to this, the researcher asserts that also the first strategic management method, CDP, which was implemented during the 2005-2007 period, looks like the BSC in some aspects and could be regarded as adapted version of the BSC. For example, although it did not have employee perspective, it can be told that they took into consideration stakeholders (instead of customer in such a public institution), internal process, and financial perspectives that were scattered into strategic objectives/perspectives.

Likewise in the CDP method, two main activity areas and corporate development were identified as strategic objectives in the CDPr that are known as 'perspectives' in the original design of the BSC. Although corporate development can affect the other two perspectives, those two activity areas are independent; namely, there are no interlinked strategic activities. That's why there could not be established cause-and-effect relationship between strategic objectives and targets. In fact, when the original design of the BSC which was conceptualized by Kaplan and Norton, is taken into consideration, it can be realized that perspectives in CDP and CDPr looks a lot like 'themes' (Kaplan and Norton, 2006).

On the other hand, cause-and-effect relationship was tried to be established only in the method which is called as BSC in 2008-2010 period (Figure 3); however, most probably they must have struggled to find this kind of connection among strategic objectives. For instance, it is difficult to understand how 'being ready for unintended consequences in global or national financial system' can affect 'strengthening the financial structure'; similarly, how 'optimizing the organization's income' can affect 'increasing trust and awareness of direct customers/citizens' on the Strategy Map for this period.

The implementers in the organization can try to have Kaplan and Norton's perspectives such as stakeholders, financial, internal process and employees. In addition to this, they can have themes like objectives/perspectives as they currently have. Also, they can spend much time on analyzing cause-and-effect relationship to identify real connection; even though, it must be admitted that this is not an easy work in such a public organization where legislation, policy and politics play an important role.

## 4.2.2. Having a Clear Vision and Strategy

As stated in the literature review, one of the prerequisite for a successful strategic management system is having a clear vision, strategy, and objectives since whole BSC design was founded upon vision and strategy pillar. Those should be understood and reflected to daily works by whole employees from top to bottom. Meanwhile, due to their complex stakeholder structures and their conflicting interests and priorities it is very difficult for public organizations to have a clear, stable and sustainable vision, strategy, and objectives. In that respect, all of the interviewees were asked whether their organization has clear and understandable, consistent with its mission and inspiring/applicable vision and strategy. Almost all of the nine respondents expressed that SDIF had a clear and understandable vision, only one respondent put a little reservation by saying "...The statement of 'being a world brand' is a little bit vague but it can be said that it is consistent with mission and clear...". Also, the same respondent stated that there was an applicable strategy but this strategy should be clearer and more understandable by everyone thereby necessitating systematic education and communication. Likewise, most of the respondents implied that the vision and the strategy were consistent with the mission, and the strategy took

place via projects and activities within the prepared plans in order to reach specified vision. On the other hand, one of the respondents opposed this with that statement: "...I think that our institution's vision is not consistent with its mission, structure, management and staff structure. In addition, I do not think our institution has a strategy which shows the way to reach that vision. This is the effect of having a shorter term targets and operational jobs focused perspective by management and staff rather than long-term targets and plans ..."

On the other hand, two other questions were asked to representatives to comprehend the attributed significance to vision and strategy by employees within the organization. All of the respondents have given affirmative answers to this question.

Majority of the respondents' answers demonstrate that staff in their departments understand and internalize the vision and the strategy of the organization and reflect their daily works. However, there are two negative responds to this question. One of those negativities were to have a public personnel structure which is protected by laws as mentioned above. In addition to this, both inconsistency between organization's current situation and its vision and inconsistency among its vision, mission and strategies affect adversely.

It can be assessed that the vision of 'Being a world brand in its key activity areas' is a little bit vague. It is simply understandable but it is questionable whether vision statement provides a clear image in employees' and citizens' minds, since SDIF is not a company or an organization which globally sells goods or serves people. Additionally, there is not a strategy statement which tells how the organization would reach that vision as an ultimate goal.

#### 4.2.3. Leadership/Commitment of Managers

One of the most important; in other words, a must criteria for success in implementing that kind of strategic management tool is commitment and embrace of management. It is obvious that no one can expect employees to give attention to strategic management if managers do not. In this regard, interviewees were asked whether their unit managers and senior managers had adequate knowledge about the strategic performance management system in work currently and whether they had commitment and support this system. While some of them gave affirmative responses, some others gave negative answers with critical opinions. The most significant opinion was "...I do not think that current top management has an adequate technical knowledge about the BSC/CDPr. Although, there is no blockage in front of the workings (strategic performance management), I think that the other managers and employees do not give sufficient attention to those workings because of not having top management's support/commitment/habit of working with plans at all..." This opinion reveals another important issue which is changing management's focus with the change in the top of an organization.

Another important opinion about this topic was that "... I believe that the system's objective is not comprehended enough. The most explicit evidences for this situation are such applications like; being used this method as a punishment tool by managers from time to time, being very difficult of measuring performance of civil servants due to its nature, incuriousness of managers regarding performance management, and giving the top performance scores to personnel in some departments because of the premium..."

# 4.2.4. Employee Acceptance, Commitment, and Empowerment

According to information gathered from literature review, one of the important issues in terms of the successful BSC implementation is employee acceptance, commitment, and empowerment. That's why interviewees were asked their opinions in that regarding and all of the respondents found out that system is helpful and beneficial in seeing the big picture and being a guideline for accomplishing their institution's targets.

In addition, they were asked how and by whom their units' targets, projects, and activities were assigned and how employees and unit managers contribute to this process. According to their answers, it can be told that employees contribute to the system while identifying the targets, projects, and activities. Although there are some other ways, the fundamental way is briefly like that top strategic targets are specified by whole management in 'Strategy Summits'. Then units are demanded to identify their projects and activities in order to achieve those targets.

# 4.2.5. Communication and Training

Another important issue for a successful implementation of the BSC is sufficient education and training. This matter is asked to interviewees and a few of them got training about the system. Those representatives took training in the first two periods (2005-2007 and 2008-2010) but they did not get any training about the current implementation. They mentioned that SDD issued some documents and forms which were straightforward; therefore, they followed the steps in the forms. If there was any problem, they could contact with SDD. When this information is taken into account, it can be told that there is not sufficient training programs regarding the system even for representatives. It is very significant to be understood and digested by whole employees within the organization to act on the same path towards the organization's vision. None of the respondents have

mentioned training of their colleagues in their departments. In this respect, the basic problem is pretending to do something, but it is obligatory to train employees periodically for this system's success. First, staff should be educated in terms of organization's mission, vision and the strategy. Then training on the technical structure of the strategic performance management system should be given. Since, employees are the main executors and if they do not understand where the organization wants to go and how, it is not possible for the organization to be able to go there.

In terms of communication efficiency, the respondents told that there was a smooth communication between units and SDD via informative statements and e-mails without any problem. Also, SDD issues a digital periodical bulletin to give information about strategic activities to whole personnel within the organization. In addition to this, some important information is shared with external people via website.

#### 4.2.6. Linking the System to Reward Scheme

The interviewees were asked whether each employee was assigned to targets and how employees could be affected when they reached or did not reach those targets. For example, their premiums/bonuses were whether affected by reaching the targets or not. It was tended to determine whether there was any connection between premium/bonus system and performance management system. While some representatives pointed out that in their units individual performance could affect premium/bonus to be taken, but one respondent expressed that it could not be reflected to premium because of team-working structure in their unit instead of individual work. Some respondents maintained that sometimes performance targets could affect premium. Moreover, some of them responded that there was no link between strategic performance system and the reward scheme. Thus, it can be obviously seen that there is no single implementation regarding reward system versus performance management system. On the other hand, the reward application changes department to department.

#### 4.3. Challenges, Problems, and Other Issues

It is deduced that there is a dilemma between 'having less strategic targets/KPIs' and 'linking the BSC to the reward scheme' within the BSC literature. As (Sharma & Gadenne, 2011) implied that there are no clear guidelines upon selecting appropriate KPIs in Kaplan and Norton's concept. In the SDIF example, when less strategic targets are included to the BSC, most of the employees are excluded and could not be assigned strategic works thereby becoming difficult to establish reward system upon the BSC scores.

When the SDIF's implementation is observed, it can be seen that there is a vicious cycle during the three changing method's periods since 2005. At the end of the CDP implementation period it was assessed that there were some disadvantages such as difficulties in setting quantifiable targets and turning into detailed job plans rather than strategically important projects or activities. Then, in the next period, the BSC was attributed that it was less detailed but it had only quantitative performance indicators rather than qualitative ones. Moreover, there were difficulties in both identification of performance measures and understanding general system working. In the third period, again it was assessed that CDPr turned into job plan rather than strategic plan. The scope of the plan has been widened, and efficiency of monitoring decreased. Below opinions of interviewees also reflect this problem that people cannot compromise on which activities should be included in the system:

- "...One of the most significant reason of this (not having connection between reward system and performance management system) is not been able to give targets to whole employees in the prepared plans. For instance, if there are 50 people working in a unit, only 3 to 5 people can take place in those plans. Neither in the CDPr nor in the BSC, a unit's all of the works are not possible to be reflected into the plans, only the works, which have strategic importance, can be taken part in those plans..."
- "...The fundamental problem which arose in the initiation of the application was departments' additions of their daily activities to the CDPr... Moreover, CDPr started to be seen as identifier of departments' scores, it lost its qualitative structure and its efficiency widely. Departments have been adding their previous and finished projects to do list again and again...."

Another challenging issue is to cascade down scorecard into the unit and individual level. In the last CDPr period it was planned to prepare individual level score cards but it could be never prepared. Although unit level plans were composed, it would not be continued because of above mentioned assessment regarding turning into detailed job plans. The respondent below mentioned that there is an inconsistency between unit and corporate level scorecards while they were implementing the BSC before CDPr.

"... (In the previous BSC application) Both unit and corporate score cards were monitored in corporate level. The biggest problem was inconsistency between unit level targets and corporate level targets within scorecards. On the other hand, in the CDPr, there are only strategic projects/activities to be monitored only corporate level. And the units demonstrate projects and activities that are only within this scope in the CDPr. On one hand, this

is positive, but on the other hand, it causes exclusion of some subjects which comprise job burdens of units and thereby not measuring performance of those activities..."

Other challenge is to quantify and measure some kind of works, especially during the previous BSC method. The employees were not accustomed or willing to state or convert their works into numeric expressions. Perhaps, it could be tried and perseverance in doing so via trainings but as mentioned above they converted the method which is suitable for qualitative expressions.

#### 5. Conclusion

With this research, it is aimed to seek answers to the main research questions whether the BSC is a successfully applicable tool for a public institution in an emerging economy. Also it is intended to reveal what challenges and issues arise during the implementation and what the critical success factors are in that context by critically reviewing and analyzing both an organization's experience from Turkey (SDIF) and the BSC itself.

After the case studies in the literature part were reviewed and SDIF's experience was observed, it was concluded that the BSC implementation in public sector organizations, especially in developing countries, is not an easy and straightforward work as conceptualized version. There may be obstacles of cultural codes and established institutions within this culture which affect the way of doing job, interests, focus, and so forth. The most significant and foremost of those is to have a strategy focused perspective that developed in 1980s among private sector companies. Then it spread to developed countries public sector organizations in 1990s and then germinated a little bit in emerging countries. It is 'a little bit' because rest of them indeed just pretend to do with fancy mission, vision and strategy statements. And especially in public organizations, lack of strategic focus and seeking satisfaction of various stakeholders' interests cause unwillingness and lack of commitment to strategic performance management methods like the BSC among senior managers.

In fact, it must be admitted that the BSC concept has some unclear points both theoretically and practically. Moreover, extraordinary results should not be expected only by applying concept directly without analyzing the subject organization's structure and trying to find the best-fit version. Fundamentally, it can be assessed as a beneficial tool for public organizations, particularly in developing countries, in order to get the habit of setting objectives, making plans to reach those objectives, measuring performance against those plans and reviewing. In order to have that habit, it is suggested to have continuous education and training regarding strategic management and the system. Furthermore, the implementers should have patience with the managers and employees who resist to change. Also, an effective communication is needed among all level of staff.

Although there are some limitations such as the researcher's pre-understanding and prejudice of the subject organization because of his working experience within this organization, and some interviewees' undemonstrative approach to some questions due to the known identity of the researcher, this research study can be useful for SDIF and organizations like SDIF with its analysis and suggestions. Also, it may shed light on the public sector organization's implementation in emerging economies for future studies. In addition, there is an area of studying on effects of cultural differences in the successful BSC or strategic performance management implementation.

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# The Lebanon crisis from international political economy perspective

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#### **Abstract**

For the past four decades now, Lebanon has experienced several upheavals in its political and economic dispensation which has had significant adverse effects on the lives of people. Currently, the World Bank mentions that it is facing a much worst situation since the end of its Civil war. The issue of the Lebanon crisis has caught the eyes of international political actors because of its dire consequences and momentum. This crisis is a consequence of the years of mismanagement of the state's economy, political differences, sectarian challenges etc. The life of the people living in Lebanon is a testament to the impact of this crisis. Due to its historic precedence, Lebanon has been entangled with diverse state actors as well as non-state actors such as Iran, Saudi Arabia, Hezbollah. The paper, through an international political economy—IPE being the interaction between politics and economy in the international space—looks at how the crisis is affecting and being affected. This kind of inquiry is significant because the crisis is mostly looked at from domestic and internal causes. The paper makes plain the bidirectional relationship between IPE and the crisis, that is, the effect of the crisis on IPE and the effect of IPE on the crisis.

#### 1. Introduction

According to the World Bank's 2020 fall report on Lebanon, the economic crisis bedeviling the state was phrased as 'deliberate'. This is because the economic crisis of Lebanon has been a result of long mismanagement, corruption, cronyism, and political gridlocks springing from sectarian leadership that stymied the progress of the state. Consequently, when mention is made of crisis, as far as Lebanon is concerned it encapsulates diverse issues ranging from political schisms, economic mismanagement, whooping level of corruption, sectarianism amongst others. And so, the breakdown of the state, which is depicted in the standard of living of the Lebanese people is consequent to this aforementioned cluster of challenges. This crisis is likely to be ranked top 10 and possibly 3 among the most severe episodes globally since the mid-19<sup>th</sup> century (World Bank, 2021) and the worst of Lebanon's since the civil war (Sanders, 2020).

Lebanon finds itself in the middle of the struggle between Iran and Saudi Arabia, a cold war type of situation—Iran showing support to the Shiite groups such as Hezbollah and Saudi Arabia also influencing the Sunni sect, which is one of the significant groups of people in the state. Aside from that, it also finds itself in the issues of the struggle of the Palestinian people, as such, Israel and the United States have taken a peculiar interest in its (Lebanon) political dispensation, not to also mention Syria, Kuwait, Qatar, amongst others, who are also actors influencing the Lebanon state.

From an international political economy perspective (IPE), which is the aim of this paper, the crisis could be assessed extensively, depending on how IPE has affected the crisis in Lebanon and how the crisis in Lebanon has affected IPE. The paper is divided mainly into two parts, the first part deals with the causes of the crisis. That is, it traces back to the historical background of the state, which in a Cause-and-Effect analysis, it will be considered as the Cause phase—the series of events that have given rise to the breakdown of the state thus 'the

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Lebanon crisis'. The second focuses on understanding the crisis from an international political economy (IPE) perspective.

## 2. Historical Background of 'the Crisis'

Lebanon as a republic shares borders with Israel in the south, in the north with Syria and the anti-Lebanon mountains share a long stretch of borders at the east with Syria and it also shares maritime borders with Cyprus. It is considered the smallest nation on the mainland of Asia. Lebanon has a long history tracing back to the ancient Phoenician civilization and then the Persians under Cyrus the Great. However, suffice to mention here, that, it was a part of the lands of the Ottoman Empire (that stretched through most of the Gulf regions). After the first world war which precipitated the collapse of the Ottoman Empire, under the auspices of the League of Nations, the mandate of Lebanon, amongst other states, was under the control of France via the Sykes-Picot Agreement, leading to the San Remo Conference of 1920 that finally determined the mandate and boundaries, and purposes of the control ratified by the League of Nations in 1921 and enforced in 1922 (Traboulsi, 2012).

The Independence of Lebanon came after infightings with the French government which later precipitated imprisonment of Lebanon elected officials after an election held in 1943 that empowered the elected officials to abolish the French mandate. In the face of severe pressure from the international community, the French released the officials and recognized the independence of Lebanon. Most significantly, it is important to note that Lebanon was/is a cluster of different ethnicities, religious affiliations—the Maronite Christians, the Sunni Muslims, the Shiite Muslims, amongst others. The Lebanon crisis is a compounded consequence of a myriad undesirable situations thus a mishmash of political, social, economic, and ideological differences between the people and certainly the elites within the territory. To better understand the crisis, it is imperative to first outline these series of unfortunate gridlocks that have stymied the progress of the republic (Traboulsi, 2012).

#### 2.1. The Civil War (1975—1990)

After the gain of independence, Lebanon was a territory housing diverse ethnicities and the continuous change and increase in the difference of the demography, thus the Maronite Christians, Sunni, Shiite Muslims as well as Eastern Orthodox Christian, etc. stifled the political and economic coexistence of the citizenry. Some significant contributory factors too were the Arab Nationalism—spearheaded by the Palestinian Liberation Organization's (PLO) leader Yasser Arafat—the Iranian revolution, the fierce Arab Israeli conflict, Black September in Jordan—the events of the Jordanian civil war which was the presence of the PLO militants in the Jordanian territories fighting against the Israeli forces, not on the behest of the Hashemite monarch of Jordan—the presence of the Palestinian fighters known as Fedayeen acting as a state within a state (Jordan) and finally, the Iraqi-Irani war. All these culminated in the Civil war of the Lebanon Republic. Given that there was a significant presence of Palestinian fighters in Lebanon after they vacated their presence in Jordan, the reluctance amongst the Christian sect to engage in full-scale aggressions with the Israelis, among others, accelerated the civil war. After the engagement of United Nation Security Council (UNSC) (resolution 425, calling for Israel withdrawal from Lebanon), and the Taif Accord of 1989 (Hezbollah militia which was a fierce group that some believed to have stood beside the Palestinian struggle was not to be disarmed, that is, the only militia which was not disarmed) ended the civil war and ushered in a new phase of Lebanon's struggle for political and economic progress. About a hundred thousand individuals lost their lives in addition to a hundred thousand more injured due to the civil war (Stoakes, 1976).

# 2.2. Post War (Syrian Occupation) and Cedar Revolution (1990–2006)

During the civil war, the Syrian forces occupied most parts of Lebanon as well as Israeli forces. However, the Israeli forces left in the year 2000 pursuant to the UNSC resolution of 425, leaving behind the Syrian Forces. The disagreement between the Lebanon officials was centered on whether or not Syrian forces were to be sacked out of the country and allowed to stay since some saw the forces as strength against Israeli forces due to the weakness of Lebanon's military forces whilst others saw it as a transgression on the sovereignty of Lebanon (Korn, 1986). After long several back-and-forth within Lebanon about the occupation of the Syrian Forces, some fierce prominent critics of the occupation were killed and prominent figures like Rafik Hariri, the former prime minister was also killed. The Cedar Revolution was a peaceful resistance to push for a full withdrawal of Syrian forces (which had lasted for about 30 years since 1976), replacement of the Syrian influenced government of the Lebanese Republic, the release of Lebanon forces leader Samir Geagea and the return of former prime Minister Michael Auon who was then in exile. This resulted in the killings of several others, the implosion of Lebanese elites both political and economic. Later, in April 2005, the last forces of the Syrian military left Lebanon after the UNSC 1559 was finally enforced (Kurtulus, 2009).

#### 2.3. The Currency Crisis Resulted in 2019 Protests

Within the periods of wars and the fierce political schisms, it obscured tremendously the development of the republic. Especially, the Lebanese currency that is Lebanese Pound (LBP), in 1997 was fixed or pegged with the dollar at 1507.5 per dollar in other words 0.0066USD (Investopedia, 2021). Due to the instability and the malfeasance within the political officials, the currency could not stay with its fixed rate, it continued to devalue as compared to the dollar massively. Currently, it has devalued almost ninety per cent causing food items to increase and incomes to look ridiculously low. In 2019, on top of the currency crisis, there were also numerous wildfires in Khroub, Chouf, amongst other Lebanese towns and villages. The government was unable to stop this disaster, it took the help of countries like Turkey, Jordan, Greece, Cyprus to curb the daunting situation in Lebanon. This and the upshot of prices of items, fuel shortage, food hoarding due to the mind-blowing devaluation of the currency, discussions of planned new taxes which would be on gasoline, tobacco, as well as Voice over Internet Calls (VoIP) on applications such as WhatsApp, Facebook caused thousands and thousands of the citizenry to come out in full-fledged protest demanding government and political institutions curb the situation (Dahrouge et al, 2020). There were clashes of civilians and the security forces, to the extent that it created a turbulent political environment resulting in the then Prime Minister, Saad Hariri tending his resignation.

#### 2.4. Covid 19 and the Beirut Port Explosion

In the wake of 2020 or even the late of 2019, the covid 19 pandemic which took a toll on the world devastated the economy and the health sector of the country. The government institutions had become incapacitated. It is civil societies and other international NGOs that came to the aid of Lebanon. A heavier blow was the Beirut Port Explosion which took place on August 4, 2020. This was a result of excessive negligence on the part of leaders since some large numbers of chemical substances were left in the port. This explosion took the lives of almost two hundred people and injured more than six thousand as well as leaving about three hundred thousand homeless (Barakat, 2020). Both Covid-19 and the Beirut Port explosion, to this day, continues to shape the country's economic landscape. Patients are dying because, on the one hand, they cannot afford the hefty prices of medicine and even if they can afford, the medicines are scarce. The crisis of Lebanon, considering the multilayers of challenges points to a breakdown of the state. Some would even go as far as to call it a failed state because of the cataclysmic nature of the crisis in general.

# 3. The Politics and Economy of the Republic

Consequent to the series of crises which has been mentioned earlier, the politics and economy of the Republic of Lebanon have been significantly impacted and thus continues to struggle. The Taif Accord made the republic a consociational democracy (Traboulsi, 2014). This is the kind of democracy where the government institutions are filled through elections on ethnic, tribe, religious etc. lines. In Lebanon that is based on religious lines it is known as Confessionalism. Such structuring of state manifests because there are several different ethnicities, tribes, religions etc. without a dominant and clear majority within the state. Therefore, in Lebanon, the President comes from the Maronite Christian, the Prime Minister comes from the Sunni Muslim and the Speaker of Parliament comes from the Shiite Muslims according to the National Pact (Britannica, 2019). Unfortunately, consociational democracy has further widened and deepened sectarianism in the country. Because of that inequality is widespread since almost every institution is driven by sectarianism, like marriage, political representation, employment, judicial appointment etc. This kind of structuring has made sectarian leaders exploit the citizenry. That is, sectarian leaders, rely on the support of their population to work and so, provide services in the interest of a handful of members of their sect. The relation between leaders and their represented populace appears to be like that of the client and the producer. Here, the sectarian leaders provide services and in turn, they rely on the votes of members from their ethnic or religion. There is little concern for the common good of all the citizens. A noteworthy feature of Lebanon's consociational democracy is the 'party cartel' that manifests (Assouad, 2021). This is where political leaders who are at loggerheads with each other, protect each other in running the finances of the country down. They most often collude in the misappropriation of the state's finances.

The economy is significantly impacted by the structuring of the state. In that, since there is a lack of cohesiveness and concern for the common good in the state, there is an egregious level of inequality. One of the first countrywide research about Lebanese income distribution was conducted in 1960 and it came to light that, the richest, that is, 4% of the population earned 32% of the national income whilst 50% of the population living in poverty earned 18% of the national income. More recently, the research of 2018, by the World Inequality Lab in finding out the income distribution of the Lebanese population 2005 and 2016, used micro-fiscal data to do the

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<sup>&</sup>lt;sup>1</sup> The study was commissioned by Lebanon's ministry of planning and implemented by the French International Institute for Research and Training for Standardized Development (IRFED).

estimation. The outcome of the research was breathtaking. The richest that is, the 10% of the population earned 49% and 54%, the middle class that is the 40% earned 40% and 34% and the poorest that is 50% earned 12% and 14% of the national income (Assouad, 2018).

This depicts explicitly how deep the crisis in Lebanon is or how multifaceted the crisis is. Lebanon is home to aside from the struggling natives, 1.2 million Syrian refugees, thousands of Iraqi and Palestinian refugees. UNICEF's survey suggests that over 30% of the children skip meals and go to bed hungry, 40% of children again are from families where none of the members has job to feed themselves, 30% receives no primary health care, 77% of the Lebanese population or households do not have food to feed themselves and other disturbing findings (UNICEF, 2021). The core of the crisis of Lebanon is on the one hand, political ineptitude, corruption, lack of political will etc. and on the other hand, gross 'deliberate' economic mismanagement. From a domestic point of view or perspective, the state seems not to have any other alternative than a bailout from the IMF, however, IMF's conditions must be met before an IMF aid recovery could begin. The utmost condition is the capability to fight against corruption which the politicians seem to lack the courage, wherewithal or even the willingness to follow through. It has caused the state to face diverse disturbing consequences, and from an international perspective, it is a diverse and deep cutting consequence.

## 4. The Crisis from an International Political Economy Perspective

The international political economy is the interaction of politics and economy in the international space. That is, the bidirectional relationship between politics and economy, where politics affects the economy as well as the economy also affecting the politics in the international community. When considering the Lebanon crisis from an international political economy (IPE) perspective, two things need quite attention, those are; how IPE has affected the Lebanon crisis and the other, how the Lebanon crisis has affected IPE. In this way, there will be chances to appreciably grasp how far-reaching the crisis, as well as the impact of IPE is. Imperatively, the term crisis used in discussing Lebanon's gradual breakdown of the state is a cluster of political crises, economic crisis, health crisis, immigration crisis, labor crisis, energy and food crisis, security crisis, a social crisis. Consequently, in the perspective of the international political economy, when assessing the Lebanon crisis five dominant issues occupy the discourse and are assessed vividly. These five issues are—the interaction between Hezbollah, Iran and Syria, the interaction between Gulf Cooperation Council (GCC) and Lebanon, expatriate and remittance, the sharp decline in Lebanese technocrats or better said, rise in emigration, and finally, the response and regional interests of the United States vis-a-vis the active role of Israel.

#### 4.1. The Interaction between Hezbollah, Iran, and Syria

During the wake of the civil war, in 1982 precisely, a militant group named Hezbollah emerged purposely because it wanted to fight against Israeli aggression. However, with the Taif Accord which finally made peace prevail in Lebanon, part of the agreement was to disarm all other militias except Hezbollah, partly perhaps Lebanon considered its military might to be relatively ineffective and given that Hezbollah has chalked several successes against the Israeli forces, notably, by driving the Israeli forces out of south Lebanon. Hezbollah is a Shiite militia like the Amal Movement of Lebanon, which means it has close ties with the Iranian government as well as being a pro-Assad regime, in turn maintaining close ties also with the Syrian regime. Iran transfers military equipment as well as funds to help support the Hezbollah group in Lebanon. From an IPE perspective, the Lebanon crisis has played two significant roles in the Hezbollah, Iran and Syria relations.

First, it has adversely affected Iran's economic growth. Due to the international concern for Lebanon crisis, the IMF, European donors, and the United States, having assessed the situation in Lebanon, pressured and continue pressuring the Lebanon government to get rid of the militia since it is endemic and at the core of Lebanon's crisis (Magnier, 2021). These countries have also sanctioned the Iranian government to aid in stifling the chances of supporting the militia group in Lebanon since US and some European countries designate Hezbollah as a terrorist group. The Iranian economy has had a heavy blow vis-a-vis these hefty sanctions. It has not been able to fund the militia group as to how it did in the past. Due to the designation of Hezbollah as a terrorist group, it was not given a higher position after the 2018 elections where it made considerable gains in parliament. Although was awarded some position in the Ministry of Health, a concession which was made even with gains Hezbollah made in the 2018 elections. Even with such a position the United States feared and was skeptical Hezbollah could use such a position to siphon funds in and out of Lebanon for its purposes (Magnier, 2021). Moreover, the United States and EU have sanctioned persons associated with the Hezbollah group (Aljazeera, 2021).

Second, the worsening of Lebanon's economy. Almost all donors including the IMF make it a point to disarm Hezbollah or even present a reformed policy that will tackle the crisis (it goes without saying that this policy must include the disarmament of Hezbollah) before it proceeds with recovery processes. This has continued to strain the economy of Lebanon and has left people to continue their wallowing in abject poverty. Anecdotal evidence suggests that some persons have joined the militia group because of the opportunities of livelihood since the group has chances of smuggling food items and energy (Slim, 2021).

In the new government of Mikati, the Ministry of Public works is in the bosom of Hezbollah, in addition, although the financial minister Youssef Khalil, not a member of either Hezbollah or Amal, is a Shiite. The future policies of both the United States and the EU are perhaps going to be a mixture of skepticism and foreign aids in forms of medical, food and not funds or weapons, given that such top positions are likely puppet positions of Hezbollah.

## 4.2. Gulf Cooperation Council (GCC) (countries) and Lebanon crisis & Expatriates and Remittance

The GCC countries are Saudi Arabia, Oman, Kuwait, Bahrain, United Arabs Emirates (UAE) and Qatar. It has been an immense help to Lebanon for the past decades. Qatar in 2019 pledged 500 million in financial support to Lebanon's economy, Saudi Arabia has been a significant pillar and has single-handedly spent more than most of the GCC countries in the reconstruction of Lebanese after its disquieting Civil war consequences (Gulf International Forum, 2019). Because of the active role played by Hezbollah, a Shiite group, in Lebanon, GCC countries have also designated it as a terrorist organization. Consequently, the tug of war between Iran and Saudi Arabia has generally centered on Lebanon. However, after the 2018 elections when Hezbollah made significant gains, the Saudi government influence in Lebanon began to recede which means financial support as well. The monetary support from GCC countries has not been forthcoming which is a terrible disaster given that the aid of \$860million deposits the gulf states make to Banque du Liban is paramount to the well-being of Lebanon's economy. The current friction between Saudi Arabia and Lebanon due to the statement of the information minister on the Yemeni War (which the government has distanced itself from) which did not go well with the Saudi government foreshadows tremendous negative effects for the Lebanese economy. Saudi Arabia and its allies UAE, Bahrain have recalled their ambassadors and reportedly banned all imports of Lebanon. Saudi Arabia has made demands that the minister of information resigns. This is a dicey demand because of two things. The issues of the resignation of George Kordahi, first, threaten the coalition government which was strenuously formed due to the sectarian nature of Lebanon's politics and second, if the Minister does not resign the ban and diplomatic relations between Saudi Arabia, its allies and Lebanon will continue to sink, forcefully, the already sinking economy of Lebanon. In all of this, the crisis of Lebanon continues to aggravate tremendously (BBC, 2021).

Expatriates in GCC countries count as a significant pillar in sustaining the economy of Lebanon. According to the IMF, four hundred thousand Lebanese were working in GCC countries (IMF, 2019). More so, the remittance from these countries accounts for 40% of the total remittance received by Lebanon, that amounts to 6.2 billion and about 5% of Lebanon's Gross Domestic Product (GDP) in 2014 (Young, 2016). Lebanon is one of the world's most received remittances. Some gulf countries in 2016 revoked visas and deported some Lebanese, for instance Kuwait deported about 1000 people (Young, 2016). They called on their citizens to cancel visits to Lebanon. This all sprung from the fact that Iran has a stronghold on Hezbollah where Hezbollah is also a significant player in Lebanon's politics and economics. The perturbing relations between Gulf countries and Lebanon has affected the economy of Lebanon tremendously. It has worsened the crisis. Below is figure 1 (Remittance) & 2 Investment)

## Total Remittances

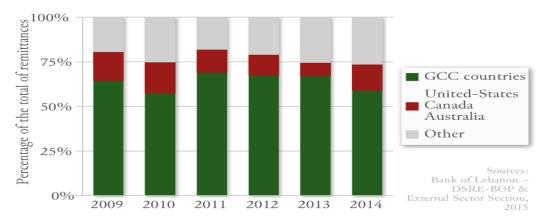


Figure 1. Total Remittance into Lebanon

Source: Bank of Lebanon- DSRE-BOP & External Sector section 2015

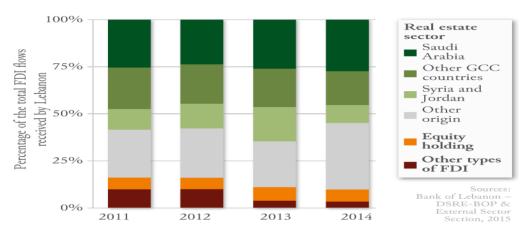


Figure 2. Investment in Lebanon

Source: Bank of Lebanon- DSRE-BOP & External Sector section 2015

Note: Both figures show the significant impact GCC has on the economy of Lebanon. Figure 1 shows the remittances contributed towards the economy and figure 2 shows the total Foreign Direct Investment (FDI) received by Lebanon.

#### 4.3. US and Israel Policy Interest & Emigration of Literates

Israel has been aided by the United States government for decades now both militarily and financially. This is because Israel seems to serve the political interests of the United States in the region. The policy interests in the Middle East are significantly pursued through strengthening the Israeli forces. As far as Lebanon is concerned, because of the presence and the active participation of Hezbollah in its political dispensation, amongst others, the United States has spent over the past decade more than 3 billion in military and financial aid on Israel (Siddiqui et al, 2021). Military support for the Lebanese Forces from the United States has also not been forthcoming. This is because of the skepticism the US has about the role of Hezbollah in Lebanon, in turn, this has also further tremendously impacted the economy of Lebanon and at its core is the fragility of the Lebanese Forces due to lack of the capability in finance and military equipment.

The crisis in Lebanon has taken a toll on the state to the extent that a significant number of Lebanese has emigrated elsewhere mostly Europe, the U.S., and the Gulf countries. This has had two effects, first, it has worsened the economy of Lebanon, in that, educated persons who could avail themselves and help manage the economy in their simple contributions have left the countries in the hands of a bunch of elites who are hell-bent on running the state down. Second, it has offered the countries where these educated Lebanese have immigrated to an additional skilled labor force.

#### 5. Conclusion

Per IPE perspective, that is, the interaction between politics and economics between two or more countries, the Lebanese crisis is quite intriguing considering that it has multiple actors involved. The term crisis might be misleading if the historical precedent is not considered when investigating the upheavals challenging the republic of Lebanon. The crisis is a mixture of social challenges, political differences, religious fanaticism (as in the case of the numerous militias), economic mismanagement and a staggering level of corruption. The political actors aside from Lebanon involve Iran, Israel, Syria, Saudi Arabia, the GCC countries, the United States, and the EU, as well as non-state actors such as Hezbollah, Amal among others. Due to the state structure of Lebanon which involves Hezbollah and other non-state actors, purely political, it influences the decision of other state actors who had it not been for these present nonstate actors would be benefactors of Lebanon, thus in the terms of economic benefits. In turn, Lebanon is affected negatively, causing a surge in health, energy, food challenges and other basic provisions. In this way, the relation between the crisis and the actors is considered bidirectional. The crisis influenced the decisions of the actors, as well as the decisions and policy implementation of these greatly influencing Lebanon. actors, the crisis of

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# The skills acquired through online education and their utility

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#### Abstract

Since the beginning of the covid-19 pandemic, interest in online courses for vocational training centres has increased. The involvement of employers through e-learning is growing because more and more people understand that for an involved workforce there is a need for continuing education. People who choose to develop their knowledge through an online course are confident in the medium and long term benefits they will have. In a time of controversy and opposition to any initiative, the only thing under our control is our development. The rapid advancement of technology made possible qualitative online learning, and the development of a growing online learning community. Courses such as public procurement expert, project manager, internal auditor, expert accessing European Structural and Cohesion Funds in 2020 and 2021 were among the top choices. A centre such as Extreme Training, Euro Best Team and Alma Vision has been able to take advantage of this favourable period to attract many students by successfully aligning their educational offer with the needs of students. In the opinion of the students, the skills acquired must be useful in the medium and long term.

# 1. Introduction

Undereducation has countless direct and indirect effects, so a person who has not had access to higher education throughout their life will earn less than a person with a university degree. And because of the small incomes, it will not be easy for them to provide quality education to their descendants. Increasing the efficiency of learning activities is a desideratum of modern society. Online courses stimulate innovative learning ability, adaptable to conditions of rapid social change and strengthen motivation in the learning process. Lately, the development of communication skills is provided in the university curriculum. Research conducted over the last seven years globally has shown that the use of information and communication technologies in education contributes greatly to improving outcomes.

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#### 2. Literature Review

J. J. Rousseau's principles of education and progress left their mark in the second half of the eighteenth century, as did Jean Piaget in the twentieth century<sup>1</sup>. Transforming any passion into a career is the goal of all centres because passion produces excellence. The first fully online course was offered in 1981, and the first online program was established by the Western Behavior Sciences Institute in 1982<sup>2</sup>. The World-Wide Web (WWW) in 1991 was a milestone in the rapid expansion and growth of online teaching and learning<sup>3</sup>. Anderson T. believes that online learning can present challenges to educators because the tools and opportunities for discovering students' preconceptions and cultural perspectives are often limited by bandwidth constraints that limit the view of body language and paralinguistic clues<sup>4</sup>. In the opinion of Allen and Seaman, the economic crisis in 2008 had a great impact on online education<sup>5</sup>. Volery and Lord consider that the internet and traditional classroom teaching methods are not mutually exclusive but should be seen as an extra dimension in education that can facilitate the lecturer's task while benefiting the students as well<sup>6</sup>. Porcello and Hsi believe that multiple information sources, user communities, and online platforms might be coordinated to craft effective experiences in digital-rich learning environments.

## 3. The most popular courses chosen in the period 2020-2021

# 3.1. Public procurement expert - COR code 214946

In Romania, public procurement is regulated by Law no. 98/2016 on public procurement published in the Official Gazette (M.O. no. 390 / 23.05.2016). Installation of the climate of self-improvement competitiveness is desirable for every employer because they lead to success. Fast data processing is an essential feature for a public purchaser. An independent work style requires a high level of knowledge and well-defined character traits. Choosing and using the right strategies to solve problems is essential in the procurement process. A popular platform that provided this course was SmartExpert, which through a personalized approach of the training program ensured efficiency, emphasizing the benefits of the students<sup>7</sup>. Aprendis, one of the most dynamic vocational training centres in Romania in this course special importance given to the practical application, such as aspects related to the procurement procedures, specifications, rules for participation in award procedures, publication of announcements, types of auctions and settlement of appeals. The price of the course at the mentioned centres is between 500 and 950 lei. 2020 and 2021 registered a general increase in the number of students by 19% at the Romanian training centres<sup>8</sup> as we can see in figure no.1.

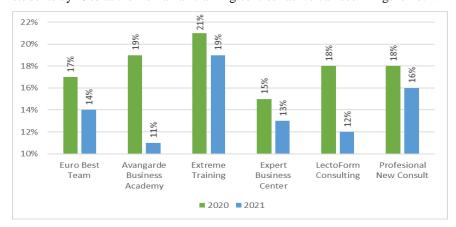


Figure 1. Increase in the number of students expressed as a percentage in six well-known training centres

**Source:** created by the author, based on information collected from the six centres

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<sup>&</sup>lt;sup>1</sup> Koops, W., (2012), Jean Jacques Rousseau, modern developmental psychology, and education. European Journal of Developmental Psychology, 9(sup1), 46-56

<sup>&</sup>lt;sup>2</sup> Harasim, L. (2000). Shift happens: Online education as a new paradigm in learning. The Internet and higher education, 3(1-2), 41-61

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<sup>&</sup>lt;sup>4</sup> Anderson, T., (2008). The theory and practice of online learning, in The Online Learning Series, Athabasca University Press, p.35

<sup>&</sup>lt;sup>5</sup> Allen, I. E., Seaman, J. (2013). Changing course: Ten years of tracing online education in the United States. San Francisco, CA: Babson Survey Research Group and Quahog Research Group LLC

<sup>&</sup>lt;sup>6</sup> Volery, T., Lord, D. (2000). Critical success factors in online education. International journal of educational management.

<sup>&</sup>lt;sup>7</sup> www.cursurismart.ro

<sup>8</sup> www.aprendis.ro

#### 3.2. Project manager – COR code 242101

Excellence gives satisfaction, so the project planning activities need to occur with precision. A 63-hour training, of which 21 hours of theory and 42 hours of practice, is considered essential for acquiring the knowledge necessary for a project manager. During the course, the participants become familiar with the whole process of carrying out a project financed from European funds. The best-known training centres have a similar agenda. Very important parts are risk management, management of the project team, and project quality. Among the acquired knowledge, we can list the elaboration of the financing application, the familiarization with the evaluation process, the contracting procedure, the organization of the project team, the monitoring, the reporting, the reimbursement of the expenses and the closing of the project. On the first places in the participants, preferences are the Euro Best Team, Extreme Training and Alma Vision centres, and the price of the course is between 500 and 800 lei.

#### 3.3. Internal auditor - COR code 241105

Knowledge and skills to perform the internal audit activity are acquired with the help of practical examples. With 30 hours of theoretical and 10 hours of practical training, this course combines in a modern way the essential knowledge that a successful auditor must possess. The course agenda at the studied centres focus on notions such as types of audits, stages of the audit process, the role of audit in the control process, risk identification and risk matrix, and elaboration of the annual audit plan. Effective implementation of the internal control methodology is a difficult task. But those who participated in the internal auditor course at the well-known training centres in Romania (Avangarde Business Academy, Top Quality Management, Expert Aktiv Group) through the reviews left on the official page express how satisfied they are with the course. figure no. 2 is an illustration of this.

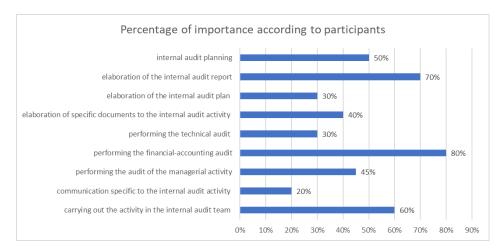


Figure 2. Importance of acquired professional skills according to participants expressed in per cent

**Source:** created by the author, based on information collected from the centres

# 3.4. GDPR: responsible for personal data protection – COR code 242231

Since life moved to the online environment, personal data protection has become more vital. General Data Protection Regulation (GDPR) is the strictest privacy law that regulates how companies protect EU citizens' data and information. Help in better data management and increase credibility. A deep understanding of GDPR terminologies shapes data management skills. The centres provide 60 hours of theoretical and 120 hours of practical training. Well-known centres based on students' preference are Avangarde Business Academy, Picon Training Center, Absolute School, Expert Aktiv Group and Tuv Austria Romania, to enumerate just a few<sup>9</sup>. The price of the course in 2020 and 2021 varied between 490 lei and 1000 lei. Key moments in the course based on instructors' opinion are to understand core concepts and components of GDPR data protection; to understand the obligations, roles, and responsibilities of the Data Protection Officer (DPO); to learn various approaches and techniques for the effective protection of data; to know about methods and techniques to effectively implementing compliance framework to the protection of personal data<sup>10</sup>. In addition to the acquired knowledge, the possession of an internationally recognized certificate offers innumerable advantages, among which we can mention salary increase, promotion, more active participation in decision-making and projects. People who

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<sup>&</sup>lt;sup>9</sup> www.picon.ro

<sup>10</sup> www.gdprtrainings.com

sharpen their data protection and data management skills successfully obtained higher salaries than an average professional, more career opportunities and added more value to their resume. Since 2020 was a change in the delivery methods of the course, which is demonstrated in figure no.3.

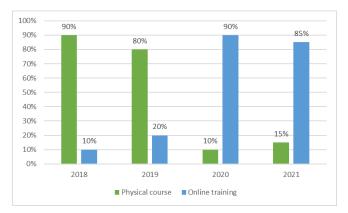
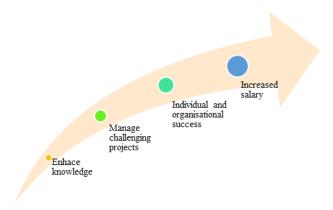


Figure 3. The evolution in delivery methods of the course from 2018 to 2022

Source: created by the author, based on information collected from the mentioned centres

#### 3.5. Tax expert - COR code 241221

This training course is an intensive one with 20 hours of theoretical, and 20 hours of practical training. An extremely demanding course that in most of the studied centres has nine modules: the fiscal system; profit tax; income tax on micro-enterprises; income tax; social contributions; non-resident income tax; value-added tax; local taxes and fees; construction tax. The Extrem Training Center uses modern training methods based on immediate applicability. Among acquired professional skills it is worth to be mentioned tax returns compilation, fiscal processing of information, and the client's fiscal classification. We can see the road of training benefits illustrated in figure no.4.



**Figure 4.** The road of training benefits

**Source:** created by the author, based on information collected from the mentioned centres

# 3.6. Expert accessing European Structural and Cohesion Funds – COR code 242213

A course that enjoys great popularity, because any small or large company tries to attract money from projects, and for this, they need well-trained specialists. Among the necessary knowledge and skills of a consultant who successfully accesses funds, we can mention the identification of the optimal financing program, the classification of eligible and ineligible expenses, to correctly calculate the non-reimbursable financial aid and own contribution, drawing up the procurement procedure in the project card. At most of the studied centres, the focuses are on the elaboration of some essential documents like the financing request, the financing contract, the additional act, the notification, the technical-financial report, the reimbursement request, the payment request, the monitoring report, the progress report, and the procurement procedure. The course provided by Euro Best Team presents, analyzes, and exemplifies all the phases of design and development of a European project, from the analysis of the opportunity to participate to the establishment and organization of writing activities, the process of evaluation, contracting, implementation, closure, and sustainability. Competences recognized at the

European level, mentioned in the descriptive supplement to the Certificate: 1. application of occupational health and safety regulations; 2. application of environmental protection rules; 3. maintaining effective working relationships; 4. preparation of the project; 5. documentation to carry out the project; 6. establishing partnerships; 7. elaboration of the project.

#### 3.7. Project evaluator - COR code 241263

An extremely popular course with 20 hours of theoretical and 20 hours of practical training. Skills acquired after the course: preparation, organization, development and validation of the evaluation process of a project; identification and application of evaluation methods and tools; elaboration of the evaluation report; determining the administrative, technical and financial compliance of the funding application with the conditions imposed by the lender, the inclusion in the approved budget and the time allotted; identifying and highlighting possible risks, verifying the effectiveness of the proposed measures to manage them<sup>11</sup>. The price of the course at the studied centres varies between 400 and 900 lei. It is also important to see how the students evaluate the importance of the acquired knowledge, as we can see in figure no. 5.

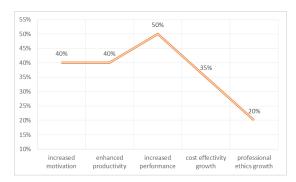


Figure 5. Growth after the course based on attendees' auto evaluation

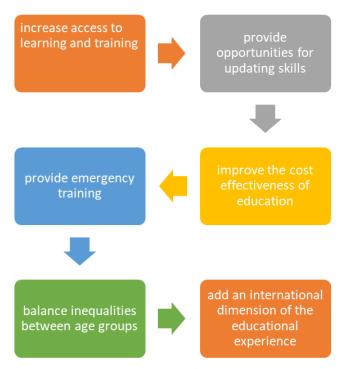
Source: created by the author, based on information collected from the mentioned centres

# 4. Advantages of online learning

Online learning until 2020 has been a popular alternative to learning since 2020 has become a necessity and often was called the "new normal". Based on the predictions, the online education market will reach \$ 230 billion by 2025<sup>12</sup>. In students' opinions, online learning promotes a better work-life balance. Because employers believe that online courses can boost soft and technical skills, multinational companies already have a budget allocated for this type of training. It is not neglectable that online courses do not require travel, thus relieving the student of the burden of travel taxes. Being a "digital nomad" is interesting and offers countless satisfactions but also challenges. For students who work part-time online courses was the perfect solution for a much more flexible schedule, because allowed them to work at the time when their brain is most engaged. The enhancement of technical literacy, development of self-motivation and self-discipline, stress reduction help people to become broad-minded practitioners.

 $<sup>^{11}\ \</sup>underline{www.traininguri.ro}$ 

<sup>12</sup> www.usa.edu



**Figure 6.** Advantages of online learning

Source: created by the author, based on information collected from the mentioned centres

#### 5. Conclusions

The increasing number of enrolled people on online courses demonstrate that the internet is a reliable ally in acquiring qualitative knowledge, especially in uncertain times when is the duty of each of us to learn something useful. The students find online courses very flexible and cost-effective, using them to boost soft and technical skills too. Based on testimonies, online courses keep people connected with the rest of the world and trained at the same time, bringing a unique perspective to everybody's learning experience. Popular courses chosen in the period 2020-2021 was: public procurement expert; project manager; internal auditor; GDPR: responsible for personal data protection; tax expert; expert accessing European Structural and Cohesion Funds; project evaluator. In general, the price of the courses varies between 400 and 950 lei at the studied centres.

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# Energy consumption and emissions in the CUIRJG countries and role of PAT in India

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#### Abstract

Global warming and a rise in carbon dioxide emissions has caused countries to revisit their dependence on fossil fuels. In the last two decades, carbon dioxide emissions have been rising, most of which comes from the consumption of fossil fuels. In order to ensure that countries take steps to reverse the alarming trend, the Paris Agreement came into effect in 2016. Out of all the countries that ratified the Agreement, the share of China, USA, India, Russian Federation, Japan and Germany or the CUIRJG countries has been the highest in total fossil fuel consumption and emissions. The paper evaluates the trends energy consumption, energy intensity, carbon dioxide emissions and rate of growth of carbon dioxide emissions in these six countries. Empirical results show that growth of carbon dioxide emissions has been declining, and a rise in energy intensity has led to a fall in growth of carbon dioxide emissions at an increasing rate. Specifically for the Indian case, the focus is on the Perform-Achieve-Trade policy whose objective is to promote energy efficiency in high energy consuming industries and sectors through market based industries.

# 1. Introduction

Global warming, exacerbated by carbon dioxide (CO<sub>2</sub>) emissions has raised concerns about how countries meet their development goals and how steps need to be taken to move towards a more energy efficient world. It is of utmost importance because the world is still primarily dependent on fossil fuels to meet its energy requirements. Data shows that between the years 2000 to 2015, globally fossil fuel consumption as a percentage of total energy remained more than 80% (World Development Indicators, World Bank), where fossil fuels comprise of coal, oil, petroleum and natural gas products. Carbon dioxide emissions have also registered an increasing trend in this time period, though there are differences depending on the type of fuel considered. Emissions from solid fuel has been the highest, where solid fuel refers to coal as an energy source. This is followed by emissions from liquid fuel, where liquid fuel comprises of petroleum derived fuels. Finally, emissions from gaseous fuels are the lowest and has remained almost constant, where gaseous fuels refer to natural gas as an energy source.

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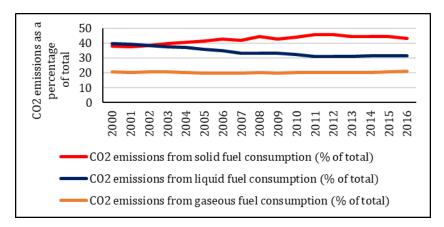
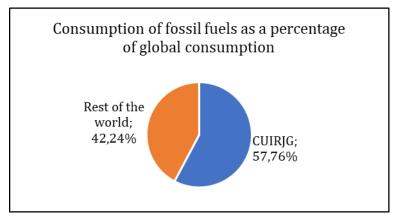


Figure 1. CO<sub>2</sub> emissions from variuos types of fossil fuels (% of total) for 2000-2016

Source: World Development Indicators, World Bank

Therefore, improving efficiency in energy use will help to reduce carbon dioxide emissions overtime, and slow down its rate of growth in the short run.

This is also the basis of the Paris Agreement, that came into effect from November 2016 onwards. The agreement set goals to achieve a reduction in global warming, and requires countries to take steps to reduce their greenhouse gas emission levels through numerous economic and social changes. Out of the 196 parties that have adopted the Paris agreement, China, USA, India, Russian Federation, Japan and Germany or the CUIRJG countries, have had the highest carbon dioxide emissions. One reason is that the overall fossil fuel consumption as a percentage of global consumption of fossil fuels, comprising of the consumption of oil, natural gas and coal, was the highest for CUIRJG countries, as compared to the total for the rest of the world, as shown in Figure 2.



**Figure 2.**Consumption of fossil fuels by CUIRJG countries and the rest of the world, as a percentage of global consumption of fossil fuels.

Source: BP Statistical Review of World Energy, 2021

The high correlation between fossil fuel consumption and emissions have led to these countries having the highest emission levels as well. Figure 3 shows the carbon dioxide emissions as a percentage of overall global emissions in the year 2019<sup>1</sup> and Figure 4 shows the trends in carbon dioxide emissions as a percentage of world total, for the CUIRJG countries and the rest of the world for the period 2000-2018.

<sup>&</sup>lt;sup>1</sup> Year 2020 has not been considered as the COVID pandemic lockdowns were in effect in many countries.

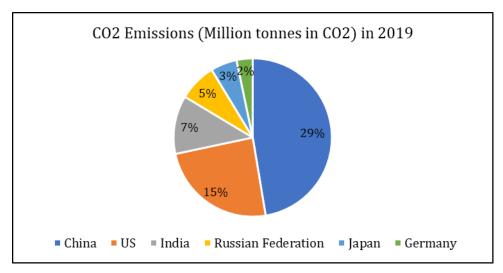


Figure 3. Carbon dioxide emissions as a percentage of overall global emissions in the year 2019

Source: BP Statistical Review of World Energy, 2021

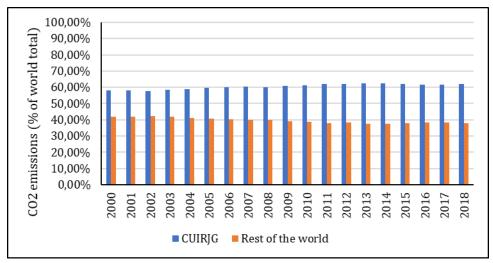


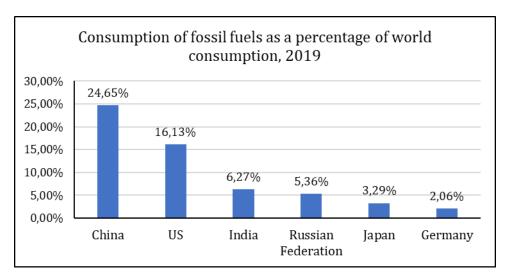
Figure 4. Carbon dioxide emissions as a percentage of world total, 2000-2018

Source: World Development Indicators, World Bank

As Figure 4 clearly indicates, for all the CUIRJG countries taken together, carbon dioxide emissions have been consistently higher than the rest of the world. Therefore, if energy in the form of fossil fuels is used more efficiently in these countries, then a greater decline in emissions can be achieved at the global level. The next section analyses the trends in various types of fossil fuels, carbon dioxide emissions and energy intensity within the CUIRJG countries. The last section elaborates on an energy intensity improvement policy introduced by the Government of India to improve the specific energy consumption of high energy consuming industries in India.

# 2. CUIRJG countries: Trends in emissions and energy consumption

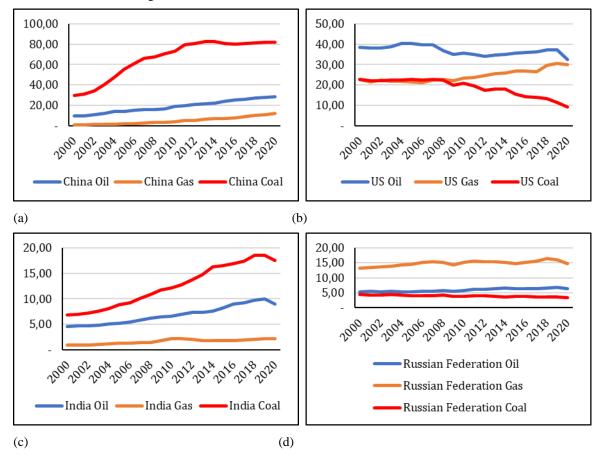
The CUIRJG countries as a block had the highest fossil fuel consumption and highest emissions in the last decade. Within this block, consumption is not uniform between countries. Consumption of fossil fuels as a percentage of the overall global consumption, is the highest for China, followed by USA, India, Russian Federation, Japan and Germany.



**Figure 5.** Consumption of fossil fuels by CUIRJG countries as a percentage of global consumption of fossil fuels in 2019.

Source: BP Statistical Review of World Energy, 2021

There are also substantial differences between these countries with respect to the share of different types of fossil fuels, mainly due to inter-country differences in the geographical concentration of these non-renewable resources, as shown in Figure 6 below.



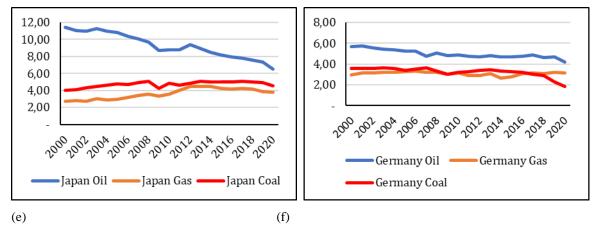


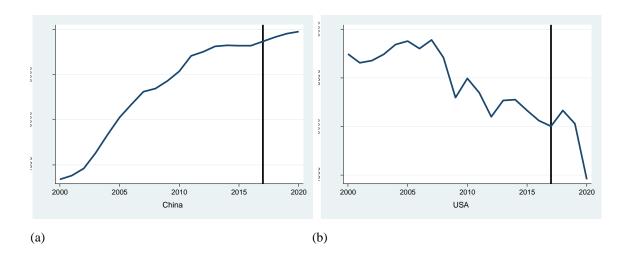
Figure 6. Country-wise dependence on different types of fossil fuels (in Exajoules)

Source: BP Statistical Review of World Energy, 2021

USA, Japan and Germany have been more dependent on oil than coal and natural gas. As per the BP Statistical Review of World Energy, South and Central America, and North America have the second and third highest reserves of oil as of years 2010 and 2020. Japan does not have enough domestic oil, natural gas or coal, and is completely dependent on imports from abroad. Most of the oil is imported from the Middle East. Though oil continues to have a dominant share in total energy, there has been a shift towards coal and natural gas. Germany, which was the largest consumer of energy in Europe in 2019 (BP Statistical Review of World Energy), is also dependent on imports to meet its energy needs, with oil and other petroleum products forming the largest proportion of its total energy consumption.

USA and the Russian Federation have been the two largest producers of natural gas in the last decade (World Energy and Climate Statistics Yearbook 2021). Not surprisingly, the proportion of natural gas in total fossil fuel consumption is the highest in the Russian Federation, followed by USA. Though China is also among the large producers of natural gas, its share is still low as compared to coal. China are India are among the largest producers of coal in the world, with USA, Russian Federation and Germany also being among the large producers (World Energy and Climate Statistics Yearbook 2021). In 2019, consumption of coal was the highest in China, followed by India, USA, Russian Federation and Japan.

The high fossil fuel consumption has led to carbon dioxide emissions to rise for most of the CUIRJG countries. However, the Paris agreement, which is a binding agreement, has caused countries to take measures to limit their emissions. Figure 7 shows trends in carbon dioxide emissions for the period 2000-2020. A vertical black line has been drawn for the year 2017. The Paris Agreement came into force from November 2016 onwards, so by 2017 countries would have started taking steps to reduce their emissions. The graph also reflects the pre and post agreement trends.



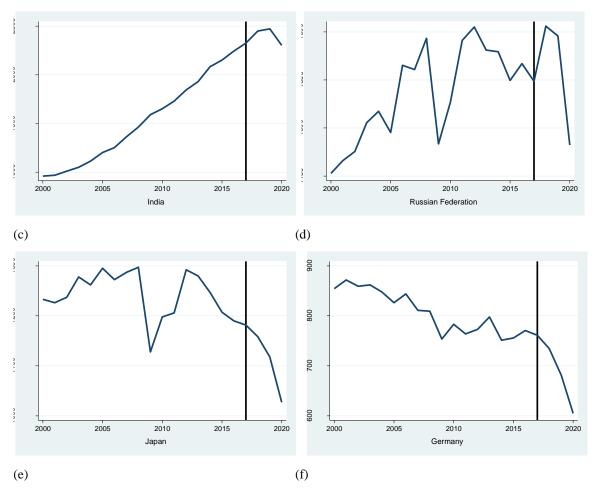


Figure 7. Carbon dioxide emissions overtime 2000-2020

Note: The vertical black line indicates the year 2017 immediately after the Paris agreement came into effect

The above graphs show a clear increasing trend for China and India, and a decline for USA and Germany, with intermittent periods of increase in emissions during the sample period of 2000-2020. In Japan emissions have been declining steadily since 2012. For the Russian Federation, carbon dioxide emissions mostly increased till 2008, after which there was a sharp fall in emissions. This could be due to the global financial crisis in 2008 and temporary plunging of the oil prices. Post 2009, emissions continued a fluctuating trend and declined after 2018. Therefore countries that experienced a clear downtrend in emissions, did so even before the Paris Agreement came into being. For all the countries the decline in emissions in the period 2019-2020 can be attributed to various forms of lockdowns and corrective measures taken due to the COVID pandemic.

But along with the actual trends in emissions, the rate of growth of emissions is also important. Countries are not expected to record an abrupt fall in emissions after the implementation of an agreement, but the rate at which emissions increase is likely to go down. This will ensure a gradual fall in actual emissions over time. Results from the exponential model or semi-log model shows that the rate of growth of carbon dioxide emissions has been declining overtime.

Table 1. Rate of growth of carbon dioxide emissions overtime using a semi-log model

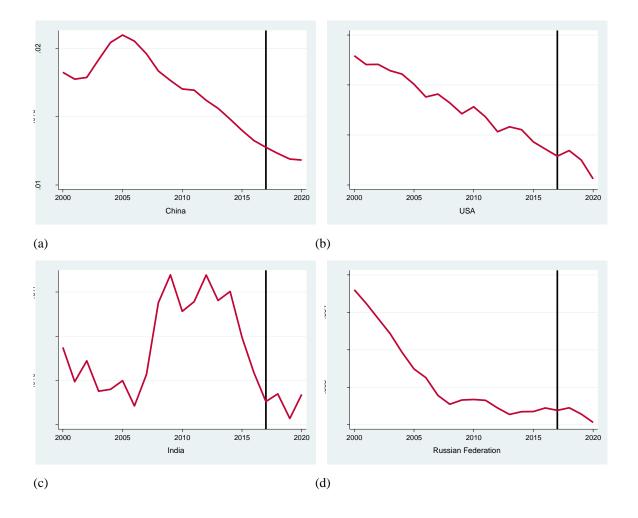
Variables	Model 1		
time	-0.0628**		
ume	(0.0268)		
Constant	-3.965***		
Constant	(0.533)		
Observations	73		
R-squared	0.553		
Year fixed effects	Yes		
Country fixed effects	Yes		

<sup>\*,\*\*</sup> and \*\*\*: Null hypothesis rejected at 10%, 5% & 1%; levels of significance respectively.

Robust Standard Errors in parenthesis.

ln(Growth of carbon dioxide emissions) is the dependent variable

Results from the semi-log model shows that the instantaneous rate of growth is -6.28% and the compound rate of growth for the sample period is -6.09%. This implies that though the carbon dioxide emissions are rising, there is a decline in the rate of growth of emissions. In fact, energy intensity, defined as fossil fuel consumption per unit of gross domestic product, shows a decline overtime (Figure 8 below).



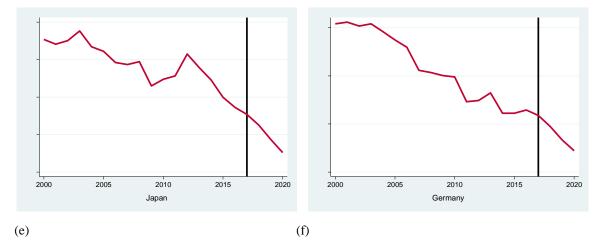


Figure 8. Energy Intensity overtime 2000-2020

Note: The vertical black line indicates the year 2017 immediately after the Paris agreement came into effect

The graphs in panel (a) to (f) shows that for all the CUIRJG countries, there has been a decline in energy intensity. For India, energy intensity showed an increasing trend till 2009, but post 2014 there was a sharp decline. This could be because of the implementation of the Perform-Achieve-Trade policy, a Government of India initiative to improve the energy intensity of high energy consuming industries using market-based mechanism. Since most of the fossil fuel energy consumption comes from the industrial sector, an improvement in the energy intensity of this sector will make a major contribution in reducing the overall carbon dioxide emissions.

Table 2 below gives the empirical results from the polynomial regression model, with growth of carbon dioxide emissions as the dependent variable and energy intensity and square of energy intensity as the independent variables. It is a panel data analysis for the CUIRJG countries for a sample period of 2000-2020.

Table 2. Relation between growth of CO<sub>2</sub> emissions and energy intensity

Variables	Model 2
Engage Interesity	-32.74*
Energy Intensity	(17.217)
G 1 4 2 12	1343***
$(Energy\ Intensity)^2$	(504.2)
Constant	0.0127
Constant	(0.0664)
Observations	120
R-squared	0.734
Year fixed effects	Yes
Country fixed effects	Yes

<sup>\*,\*\*</sup> and \*\*\*: Null hypothesis rejected at 10%, 5% & 1%; levels of significance respectively.

Robust Standard Errors in parenthesis.

(Growth of carbon dioxide emissions) is the dependent variable

Empirical results show that as energy intensity increases, there is a fall in the growth of carbon dioxide emissions, and this fall occurs at an increasing rate. Both the effects are statistically significant. This means that countries are taking steps to work towards energy efficiency improvements, because this is also a period where GDP has recorded a rising trend for all the six countries. Clearly, fall in energy intensity is not due to a fall in GDP.

Specifically in the Indian case, one of the steps taken is the formulation of Perform-Achieve-Trade policy to bring about an improvement in energy intensity of the industrial sector. The next section gives a brief description of this policy.

## 3. Energy Intensity in India: Perform-Achieve-Trade policy

India is committed to meeting its targets to reduce carbon dioxide emissions, while balancing its economic development goals. Way before the Paris Agreement came into effect, Government of India set up the Energy Conservation Act in 2001. The objective of the Act was to reduce energy intensity in the country. The Act also set up the Bureau of Energy Efficiency in 2002 under the Ministry of Power, with the purpose of promoting energy efficiency in the country through market based policies.

A first of its kind step for India was taken in the form of Perform-Achieve-Trade scheme or PAT scheme, that was launched in the year 2008 by the Government of India and the Bureau of Energy Efficiency. It is defined as a market based mechanism to enhance cost effectiveness of improvements in energy efficiency in energyintensive large industries and facilities, through certification of energy savings that could be traded (PAT, Ministry of Power, GoI, 2012). The first cycle was implemented from April 2012 to March 2015. Eight high energy consuming industries, viz., Aluminium, Cement, Chlor- Alkali, Fertilizer, Iron & Steel, Paper & Pulp, Thermal Power Plant and Textile, were selected for implementation. Within each of these industries, only a select few plants were brought under the purview of the scheme. These plants were called designated consumers. They were selected on the basis of their annual energy consumption, i.e., plants consuming more than the threshold level were identified as designated consumers. A total of 478 designated consumers were selected from the eight industries. Each plant was given a unique specific energy consumption target to be met by the end of the implementation year, March 2015, where specific energy consumption is defined as the ratio of net energy input used by the designated consumer to total quantity of output produced by the designated consumer. Energy saving target under PAT Cycle-I was 6.686 million tonnes of oil equivalent (Mtoe). If the plant met the given target, it would be given energy saving certificates or ESCerts that can be traded and sold to the plants that failed to meet their targets. One ESCert is equal to 1Mtoe. The trade would take place in the Indian Energy Exchange and the Power Exchange of India. In the first PAT Cycle, the industries exceeded their targets by 30%, achieving energy saving of 8.67 Mtoe. This helped in reducing emissions by 31 million tonnes of CO2. Trade in ESCerts started on 26th September 2017 and almost 1.3 million ESCerts were traded (Bureau of Energy Efficiency, Ministry of Power, GoI).

Encouraged by the success of PAT Cycle-I, Government of India extended the scheme in its second phase to include more designated consumers withing the existing eight industries, and also added three new sectors, namely, Railways, Refineries and Power distribution companies or DISCOMS. The implementation period ran from 2016-17 to 2018-19. A total of 621 designated consumers were notified, with the overall target of 8.869 Mtoe in energy saving. PAT Cycle-II exceeded its targets by 33%, achieving total energy saving of 13.28 Mtoe. This has helped to reduce emissions by 61.34 million tonnes of CO<sub>2</sub>.

Now the scheme is being implemented on a rolling basis and currently it's in its sixth phase. Figure 9 summarizes the successive PAT Cycles with their designated consumers and energy saving targets.

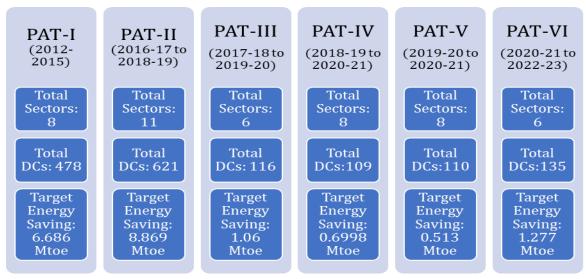


Figure 9. PAT Cycles

Source: Bureau of Energy Efficiency, Ministry of Power, Government of India

Specifically, four industries, viz., Cement, Iron and Steel, Pulp and Paper and Textile industries have been a part of all the six PAT Cycles, since these are among the most energy consuming sectors. However, the number of designated consumers identified from these industries have declined substantially after PAT-II, as shown in the bar chart in Figure 10.

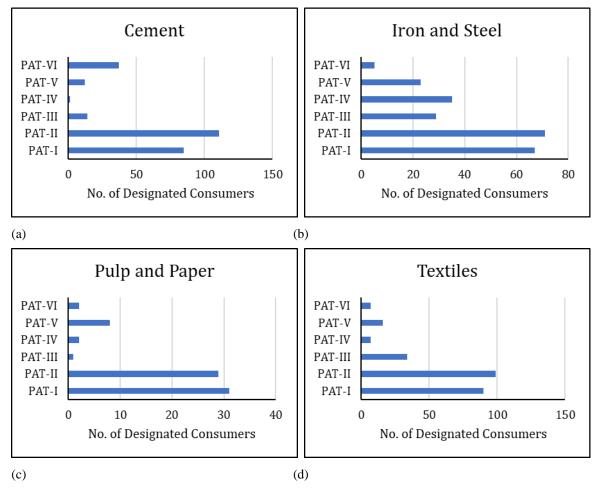


Figure 10. Designated consumers from four industries under successive PAT Cycles

Source: Bureau of Energy Efficiency, Ministry of Power, Government of India

This can be due to the success of the first two cycles that have caused plants to overachieve their targets. In fact at the national level Figure 7(c) for India shows a decline in energy intensity after the PAT scheme was implemented. Therefore, if efficiency can be achieved in the use of fossil fuels, then a major step is taken in the direction of emission reduction.

### 4. Conclusion

China, USA, India, Russian Federation, Japan and Germany or the CUIRJG countries have had the highest carbon dioxide emissions in the last decade. These countries are also dependent substantially on fossil fuels, though there are differences in the type of fossil fuels consumed. But various policies are being implemented at national levels by these countries, like India's PAT policy, China's 13<sup>th</sup> Five Year Plan that has national target to reduce energy intensity 15% below 2015 levels by 2020, etc. to strike a balance between economic and environmental goals. Empirical analysis also shows that the rate of growth of carbon dioxide emissions is falling overtime. There has been an improvement in energy intensity of these countries, brought about by greater efficiency in the use of fossil fuels as an energy source. This has also helped growth of emissions to record a declining trend.

But initiatives to slow down emissions have to be extended to the rest of the world as well. Since it is a common global crisis, greater cooperation between countries in terms of sharing of technologies, resources, policies, etc. will help to achieve the objectives of the Paris Agreement more efficiently.

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