

دور التدخل الحكومي في تحقيق التحول الهيكلي في الاقتصادات العربية: التطبيقات المعاصرة للسياسات الصناعية الحديثة - دراسة تحليلية

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ملخص: تهدف هذه الدراسة إلى تحليل وتقييم دور التدخل الحكومي في تحقيق التحول الهيكلي في اقتصادات الدول العربية مع التركيز على التطبيقات المعاصرة للسياسات الصناعية الحديثة في الدول المتقدمة والدول الصاعدة وبمختلف مستويات تطبيقها الأفقية والرأسية والحدودية.

كما تهدف الدراسة أيضاً إلى إبراز أهم الأسس العملية التي تملي تدخل الحكومات لتعديل هياكل الاقتصادات في الدول العربية، وضمان توجيهها نحو القطاعات والأنشطة الأعلى تقانة. هذا إضافة إلى تحديد أساليب تطبيق هذه السياسات بالنظر إلى القيود التي تفرضها المنظمات الدولية، وبخاصة منظمة التجارة العالمية.

وتخلص الدراسة إلى أن تحقيق التحول الهيكلي والتنمية المستدامة في الدول العربية يتطلب تدخل الحكومات والتطبيق الفاعل لحزم السياسات الصناعية الحديثة لإنشاء أنشطة جديدة وكذلك هياكل اقتصادية أكثر منافسة تقوم على معايير واضحة لانتقاء تلك الأنشطة وذلك وفق قواعد المنافسة، وآليات السوق، والإنتاجية، والمساهمة في النمو والتصدير، وتحسين مستويات الاندماج في سلاسل القيمة العالمية.

المصطلحات الأساسية: التدخل الحكومي، التحول الهيكلي، السياسات الصناعية الحديثة، التعقيد الاقتصادي، الاقتصادات العربية.

Role of Government Intervention in Achieving Structural Transformation in Arab Economies: Modern Applications of New Industrial Policies Analytical Study

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Abstract: This study aims to analyze and assess the role of government intervention in achieving structural transformation in the economies of the Arab countries focusing on modern applications of New Industrial Policies (NIP) in their various horizontal, vertical and frontier aspects, in developed and emerging countries. The study also aims to highlight the most important practical rationales that dictate the government intervention to modify the structures of Arab economies and to ensure that they are directed towards more technological sectors and activities. In addition, the study aims to determine the methods of applying these policies taking into consideration the restrictions imposed by international organizations, especially the World Trade Organization (WTO).

The study concludes that achieving structural transformation and sustainable development in Arab economies requires government intervention and effective application of new industrial policy packages to create and establish new activities and new competitiveness in the economic structures of these countries following a clear criterion of selection based on competition rules, market mechanisms, productivity, contribution in growth and export, and improvement in the levels of integration in the global value chains (GVCs).

Key words: Government Intervention, Structural Transformation, Arab Economies, New Industrial Policies, Economic Complexity.

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1 - Introduction

The history of developed and emerging economies has proven that economic progress is associated with the ability to modify economic structures and create new ones that are more dynamic, modern and responsive to changes and developments in global competition requirements. This structural adjustment was not automatic or coincidental but was the result of intervention by these countries through their governments and institutions. Nonetheless, this analysis remains closer to generalization. Practically, the experiences of those countries have varied in terms of size, quality, areas, tools, and timing of this intervention. The economic development literature shows an agreement in describing these intervention policies as "New Industrial Policies (NIP)".

Although the Arab countries have launched their development process since the mid of the last century involving direct and indirect government interventions in economic activity, the current status shows that this intervention was not based on specific targets aimed at achieving structural transformation that secures a stable pathway for sustainable development.

This study attempts to re-energize the role of the state and its policies to achieve the structural transformations and redirect the economy towards more valuable sectors and activities that are able to contribute effectively in developing and supporting Arab economies sustainability to be able to bridge the gaps between them and the developed and emerging economies depending on sound applications of the "New Industrial Policies- NIP".

The main objective of this study is to assess the adequacy and effectiveness of the role of government intervention in achieving structural transformation in Arab economies taking into consideration the international modern applications of new industrial policies, especially in the countries that have already been employing these policies in running their economies.

This study implements the descriptive and historical methods in investigating and analyzing the role of government intervention in achieving structural transformation by reviewing the literature, analyzing the relevant data and examining the international experiences related to this topic.

Finally, the study discusses the importance of the role of government intervention in Arab economies by applying the new

industrial policies approach which will enable them to avoid the risks of falling in medium-income countries traps, and allow them to redirect their economic activities toward more advanced and innovated patterns.

Most of the literature on structural transformation has been seeking to analyze the historical paths of developed and emerging countries; there is agreement that structural transformation indicates "the re-arrangements of productive activities in the economy and the associated pattern of allocation factors of production, not only among the economic sectors but also at the level of markets, products, and regions variety (Silva & Teixeira, 2008; & Memedovic, et al., 2010).

Analysis of structural change experiences of developed and emerging countries clarifies the rapid transformation in the economic structures from primary sectors and activities such as mining, and agriculture, to manufacturing sectors in addition to transformation from industrial activities associated with natural resources, intensive low-skilled labor, to more sophisticated industrial and service activities with knowledge-intensive content.

These changes are accompanied by the availability of high-quality factor production, especially skilled and capable human resources, in addition to reduction in cost of transactions through provision and availability of advanced infrastructure, productive facilities and flexible government regulations (Frank, 2015; Szirmai, 2009).

Structural transformation represents the main focus of economic policy intervention in the developed, developing, and emerging countries; it includes reducing the share of agricultural activities in GDP and total employment, raising urban manufacturing activities and modern services, and increasing the share of manufactured goods and products in GDP value-added and export composition (Lin, 2012). This leads to welfare, prosperity, sustainability and effectiveness in using and allocating resources among different sectors and activities, and eventually breaking through technological and cognitive boundaries of existing production structures. This is because no economy in the world that is based on imitation and traditional activities can ensure continuity of transformation and sustainability. Rather, it should move towards more advanced and innovative activities as it is currently the case in the USA, Germany, Japan, and other developed countries, which are mostly involved in the activities of the fourth industrial revolution (Lin & Monga, 2017).

Literatures and applied studies have evaluated the relationship between structural change and various economic variables, such as economic growth, exports, productivity and employment. The focus here in this study is on those studies that have assessed the relationship between structural change and economic growth expressed by GDP per capita growth. These studies have emphasized the strength and significance of the relationship between these two variables, although they differ in their estimation of causality, as few of them have concluded that structural change is causing economic growth. The majority have found that economic growth is causing structural change, and that achieving such growth is a precondition for structural change, driven by the effects of income growth and demand growth. (Amable, 2000).

However, other studies have found positive relationship with higher correlation between structural change speed and economic growth rate. The rapid pace of structural change is the cause of growth, especially in the case of developed high-income countries. At the early stages of structural change, as was the case at the beginning of economic progress in developed countries, the relationship between achieving structural change and economic growth was more reliable (Memedovic, & Apadre, 2010).

This analysis supports the necessity for achieving structural change in developing and emerging countries without interruption. The outcome of this change, which can be traced by its impact on income growth per capita, will remain subject to the level of development achieved and the structure of the existing production in the country. Structural change, however, may occur at a high speed but into low productive activities (the Greek model); conversely, it may occur at a slow pace, but into highly productive activities (Aiginge, 2002).

The above discussion shows the need to establish a process of structural change not by improving the existing productive structures only, but also by building new structures based on specialization and selection of rapidly growing activities. This may explain the differences in growth, productivity and speed of structural change among countries such as the United States and Japan on the one hand, and the counterparts in Europe on the other. (Financial Times, 2016).

2 - Structural Transformation Challenges in Arab Economies

Although Arab economies have achieved relatively reasonable changes in their economic structures, the most important part of these

changes had been achieved at the beginning of the development process in the mid-1950s. The structural change has been achieved in its first phase, represented by shifting from high reliance on natural resource-based activities to low-value-added industrial activities such as extractive industries and traditional low-to-medium technology industries. Arab countries vary in the degree of continuity of structural change according to the historical path of developed and emerging countries. They have not been able to develop their economic and productive structures towards knowledge intensive activities and products (Hobday, 2009).

Table 1 shows no change in the production structures of Arab economies during the period (1985- 2015). It indicates that the relative importance of extractive activities has not decreased substantially in this period despite the decline in the relative importance of agricultural output, which is a key feature of structural change.

Table (1)
GDP Structure for Arab countries during the period
(1985-2015) - Selected Years (%)

Sector/economic activity	1985	2000	2005	2015	Growth 1985/2015
Extractive Industries	26.8	26.1	27.7	22.6	5.74
Manufacturing	9.0	10.9	9.6	11.0	6.82
Agriculture and fishing	9.2	10.8	8.0	7.1	4.8
Services	55.0	52.2	54.7	59.3	6.5
Total	100	100	100	100	

Source: data were calculated according to the statistics of the Unified Arab Economic Report - different years.

However, the international experience confirmed that this should be associated with a significant increase in productivity which did not happen in the Arab economies compared with an emerging economy like China in which the share of agricultural sector in GDP fell from 19.6% in 1995 to 8.8% in 2015, and its agricultural output achieved an annual growth average rate of 9.51%, while the contribution of the agricultural sector in GDP in the Arab countries fell from 9.2% in 1985 to 7.1% in

2015, and the agricultural output growth rate was only 4.8% throughout the period (1985-2015), (WDI, 2017).

Although the process of structural change requires increasing the activities in the manufacturing sector, the data shows that Arab economies have not made a significant contribution for this sector in GDP, and its share remained within 9-11% of GDP. This matter was not only limited to the lack of volume and relative importance, but also to the quality weakness considering its cognitive and technical contents. This weakness is related to the dominance of the same structure based on traditional industrial activities, such as refining industries, food industries, textiles, iron and steel, fertilizers, petrochemicals, and other traditional industries. This is illustrated by the analysis of the qualitative structure of Arab exports as shown in table 2; the relative importance of High-Tech exports is very limited in many Arab countries, which have considerable manufacturing activities, in terms of relative importance or absolute volume, such as Tunisia, Jordan, Egypt, Morocco, and Saudi Arabia. This ratio is ranging from 1% in both Egypt and Saudi Arabia, to about 13% in Tunisia, as an average for the years 2012-2015. Such contribution reached to 21.0%, 35.0% and 44.0% in the developed and emerging countries, such as Japan, China and Singapore respectively. In contrast, the bulk of the Arab exports was concentrated in commodities of natural resources, raw materials, and low technology products, which together accounted for 58% of total exports in Tunisia and 95% in Saudi Arabia. The relative importance of these exports in the comparative countries ranged from 25.0% in Japan to 44.0% in China (WITS 2017).

Table (2)
Exports Quality according to their technological content for Arab and comparative countries, average 2012-2015 (%)

Technology level/country	High - Tech Exports	Medium - Tech Exports	Low Tech Exports	Primary Products	Natural Resources	Total Exports
Egypt	1	18	22	30	29	100
Jordan	3	30	32	18	17	100
Morocco	6	32	20	16	26	100
Saudi Arabia	1	4	1	84	10	100
Tunisia	13	29	27	17	14	100

Cont/ Table (2)

Exports Quality according to their technological content for Arab and comparative countries, average 2012-2015 (%)

Technology level/country	High - Tech Exports	Medium - Tech Exports	Low Tech Exports	Primary Products	Natural Resources	Total Exports
China	35	21	33	3	8	100
Japan	21	54	11	3	11	100
Singapore	44	18	8	2	28	100

<http://wits.worldbank.org/WITS/WITS/Results/Queryview/QueryView>.

This analysis reflects a qualitative and quantitative performance weakness in exports and economic structures of the Arab countries. Also, the average contribution of high-tech exports in these countries was only 0.12% of the world total high-tech exports for the period 2012-2015. On the contrary, the bulk of this type of exports is contributed by China (26%), Germany (8.57%), USA (7.17%), Singapore (6.93%), Korea (6.20%), France (6.14%) and Japan (4.20%), which indicates that these seven countries control about 63.2% of the world's high-tech exports. This shows as well that all Arab countries lagged even behind many developing countries, such as Mexico, Thailand and the Philippines, whose contribution was about 2.13%, 1.43%, 1.22% of the world's high-tech exports, respectively. These countries had lower incomes and faced deeper developmental challenges in comparison to the rich Arab countries (WITS, 2017).

Inclusive Structural Transformation Index (ISTI) confirms the previous analysis. The index has the ability to measure various aspects related to transformation of economic and social structures using 8 main indicators including: Manufacturing, trade, innovation, resources, renewable energy, gender, employment, and sustainable environment. The index also has 27 sub-indicators that enable evaluating the economic structures, communities, productivity, and environmental dimensions. This index proves that Arab countries lagged behind some developed and emerging countries, such as Germany, Czech Republic, Norway, Japan, Malaysia, Korea, and Singapore. (see figure 1).

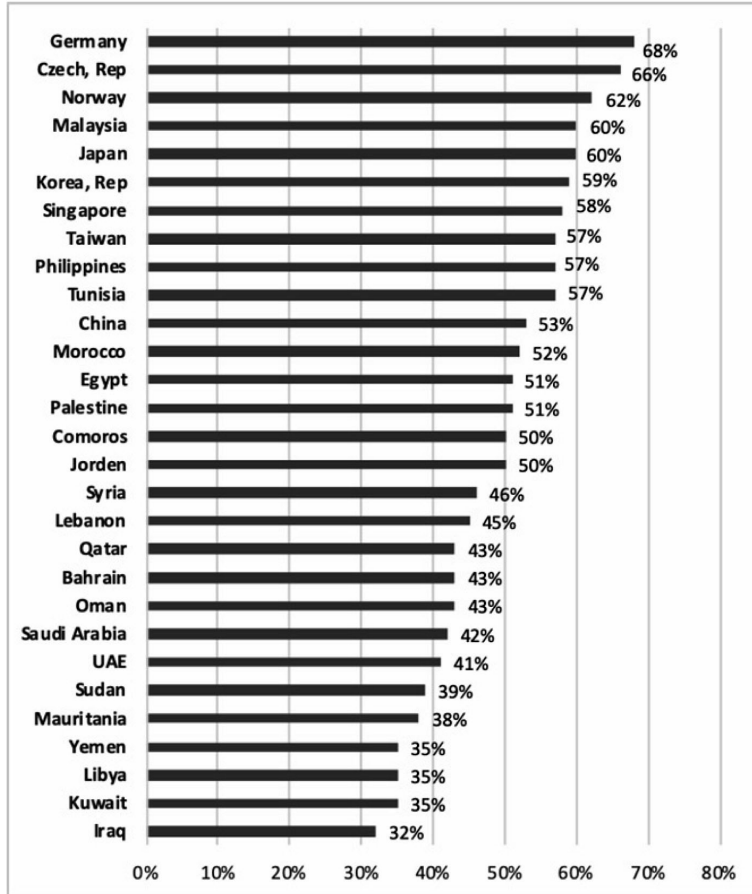


Figure 1: Inclusive Structural Transformation Index (ECI - 2014) in Arab economies compared with several developed and emerging economies

Source: Lin, J., et al, (2017): "The Inclusive Sustainable Transformation Index" 07/05/2017

Moreover, the figure shows the inability of the higher-income Arab economies to register high values for this indicator, namely, the GCC countries which have very high rates of Human Development Index (HDI- UNDP) similar to the rates of the OECD countries that have succeeded in achieving structural transformations. The GCC countries have even failed to achieve comparable rankings with the Arab low-middle income countries such as Tunisia, Morocco, Egypt, and Palestine. This made it clear that the GCC countries have not succeeded in achieving a reasonable structural transformation, particularly with

respect to the aspects of production, manufacturing, and export structures despite their resource endowments and high quality of life.

These countries have adopted economic policies that have not invested these benefits in more diversified economic structures in the previous decades. Developed countries such as the United States and Norway that are like the GCC countries rich in natural resources, especially oil, have succeeded in government intervention with multiple policy packages that aimed to transform these endowments or resources into more sophisticated structures, activities, and products.

3 - Structural Transformation According to Economic Complexity Index

The results of the Global Index for Measuring Economic Complexity can also be used to evaluate the structural transformation in the Arab economies.

This index was developed in Harvard University by Hidalgo and Hausmann in 2009, depending on analyzing the relations between countries and their exported products. The index structure defines the basis for the theory of economic complexity, which reflects the knowledge embedded in the productive structure of an economy; such knowledge is at the core of the endogenous theory of economic growth. The index developers also noted that the correlation between the ECI and GDP per capita was very robust, and they further showed that the ECI predicts economic growth after statistically controlling other baseline country characteristics. As a result, countries with higher economic complexity than their level of GDP per capita can be expected to grow faster. (Hidalgo & Hausmann, 2009). Latest studies have confirmed the tight relation between ECI and growth, especially in the long run. (Stojkoski & Kocarev, 2017).

According to the values of this index, the pace of development of economic complexity in the Arab economies compared with some selected countries during the period of (1970—2015) had shown slowness in production and exportation of knowledge-intensive products in most of them despite improvement in Saudi Arabia, Tunisia, Qatar, UAE, Oman, and Kuwait in this respect. On the other hand, the index showed a decline in the quality of production and export structures in many Arab countries during that period, especially in Lebanon, Jordan, Egypt,

Morocco, Syria, Algeria, and Sudan, most of which had not enjoyed resource abundance like the GCC countries, in the sense that they were supposed to be more oriented and motivated towards developing more diversified economic structures and more knowledge and technology intensive products (see Table 3).

Examining the comparative performance of Arab countries as presented in the data of 1970, Lebanon appeared to be the best Arab country in the results of this index surpassing even countries such as "South Korea" at that time. However, performance gap between these two countries intensified over the following decades and Lebanon dropped by 80.7% in the value of this index in 2015 of its value in 1970, whereas South Korea grew at a rate of 234% in this index in the same period.

Table (3)
Economic Complexity Index Evolution of Arab Countries and Comparison Countries for Selected Years for the Period 1970 - 2015

Index 2015	Country	Index 1995	Country	Index 1970	Country
2.46895	Japan	3.25212	Japan	2.30919	Germany
2.15953	Germany	2.7745	Germany	1.97001	Japan
2.07433	Korea	1.20507	Singapore	0.647574	Lebanon
1.67441	Singapore	1.18708	Korea	0.621873	Korea
1.13173	Mexico	0.88822	Mexico	0.597902	Jordan
1.0751	Malaysia	0.40735	Malaysia	0.56752	China
1.03541	China	0.38087	China	0.256898	Mexico
0.33331	Turkey	0.26288	Saudi Arabia	0.063316	Singapore
0.30741	Saudi Arabia	0.20654	Jordan	-0.07853	Qatar
0.12467	Lebanon	0.13736	Lebanon	-0.134677	Tunisia
0.06476	Tunisia	0.06138	Turkey	-0.136492	Egypt
0.0213	Qatar	-0.28541	Tunisia	-0.315138	Morocco
0.00823	UAE	-0.37933	Oman	-0.201459	Syria
-0.01891	Kuwait	-0.40908	Egypt	-0.298926	Algeria
-0.02088	Jordan	-0.46788	Kuwait	-0.545683	Turkey

Cont/ Table (3)
Economic Complexity Index Evolution of Arab Countries and Comparison
Countries for Selected Years for the Period 1970 - 2015

Index 2015	Country	Index 1995	Country	Index 1970	Country
-0.22871	Egypt	-0.55301	Qatar	-0.678805	Malaysia
-0.31171	Oman	-0.27542	UAE	-0.734606	UAE
-0.59584	Syria	-0.71344	Morocco	-0.879255	Saudi Arabia
-0.73313	Morocco	-0.77736	Algeria	-0.916525	Kuwait
-1.00593	Algeria	-0.87003	Syria	-1.1488	Oman
-1.6188	Sudan	-0.99069	Sudan	-1.30781	Sudan
-2.18536	Nigeria*	-2.19461	New Guinea*	-1.70208	Nigeria*

<https://atlas.media.mit.edu/en/resources/methodology/>

*: These countries occupied the last rank, according to that index.

Moreover, while some Arab economies have been able to achieve positive development according to this index during the period of measurement, comparative performance with emerging and developing countries such as Korea, China, Turkey, Mexico, and Malaysia indicates that they are unable to keep up with the adjustment of their economies and products towards more advanced and developed structures.

Given the values of this index, the study investigated the gaps between the Arab economies and the comparative countries on the one hand, and between them and the most advanced country on the other hand. We noticed that countries such as Korea had narrowed this gap from 71.2% in 1970, to 63.0% in 1995, and to 16.0% in 2015. Singapore reduced this gap from 97.2% to 63.0% and then to 32.2% for the same years respectively; this was also the case for the rest of the comparative countries, such as Malaysia, Mexico, and Turkey. In contrast, this gap in the case of a country such as Lebanon increased from 71.9% to 95.7% and then to 95.9% for the same years respectively, and this was the case for countries such as Egypt, Algeria, Morocco, and Sudan. However, countries like Saudi Arabia, Oman and Tunisia had shown trends of minimizing this gap although the size of this gap was still very wide.

Causal relationships between a countrys success in modifying economic structures and the ability to promote quality and complexity

of their products can be emphasized. This is expressed in Figure (2), which confirms the relationship between structural transformation and economic complexity. It was found that comparative countries such as Japan, Korea and Singapore had surpassed the trend line achieving high levels of structural transformation and economic complexity. Similarly, Malaysia had achieved high levels of transformation but relatively lower levels of economic complexity.

On the contrary, most of the Arab countries had not achieved significant progress in both indices, such as Jordan, Egypt, Morocco, Syria, and Sudan, and they also failed to translate structural transformation improvement into economic complexity advances.

These observations are compatible with the previous findings about the sluggish performance in products quality (i.e., less technologically inclusive) of the Arab countries. Many of these countries have performed relatively poor in achieving structural transformation, but this has been associated with an improvement in the levels of economic and productive complexity in some countries, such as Saudi Arabia, Qatar, the United Arab Emirates and Lebanon.

This matter may be interpreted by the continuous dependence of their economies on extractive and primary resources. This is associated with a significant improvement in the quality of products either in the manufacturing activities or relatively high value-added services with knowledge content.

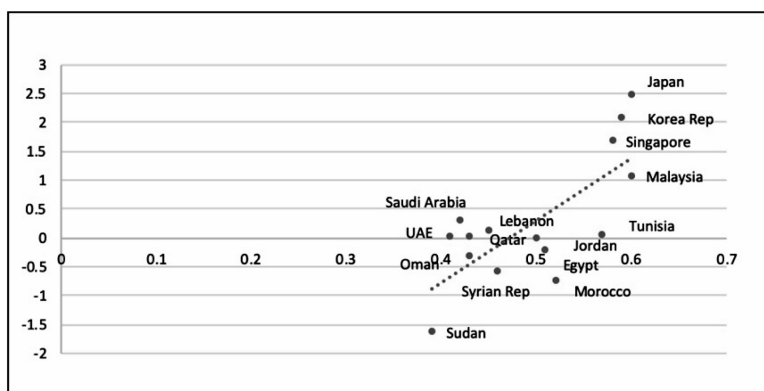


Figure (2): Relationship between Structural Transformation and Economic Complexity in Arab and Some Comparative Countries.

<https://atlas.media.mit.edu/en/resources/methodology/>

The analysis shows that production and export structures of the Arab countries have not reduced or even stabilized the gaps between them and the developed and emerging countries.

Considering the above results, there is a need in Arab economies for a governmental intervention to overcome these developmental challenges which prove to be unable to adjust automatically. This intervention is established by setting policies, mechanisms, sectors, activities, and products that can achieve the structural transformation sooner rather than later. This study also confirms that the pace of structural transformation is highly related to economic growth and sustainability compared to the achievement of structural transformation only in the long run.

4 - Government Intervention Policies to Achieve Structural Transformation: Role of New Industrial Policies Applications

Adoption of New Industrial Policies (NIP) represents the key factor of government intervention in the economy through influencing economic sectors and activities, identifying activities and priority areas, approving plans and programs, and providing incentives to guide the private sector and influence its decisions.

Many authors have tried to formulate specific definitions for the NIP; some have defined them as "a set of governmental actions aimed at supporting industries that have significant potential for export and job creation, as well as the measures that support productive infrastructure capacity". (Naude, 2010). Others have expanded this definition to include "all designed and effective policies in the industrial sector, including the financial and monetary incentives for investment, as well as the volume, quality and orientations of direct public investment and public procurement programs, incentives for investment in research and development, principal programs for creating national champions, policies for supporting small and medium-sized enterprises (SMEs), policies for establishing and improving physical and social infrastructure, institution-building, trade policy, competition policy, and measures to prevent the formation of monopolies". Moreover, some added the element of "selectivity", which means that NIP must be designed and directed towards certain activities and industries". Accordingly, some have defined NIP as: "governmental actions that support production and

technological capacity in production, within the framework of the National Development Strategy, which means that distinction between specific activities and sectors is based on their capacity to generate growth and comprehensive development". (Naude, 2010)

Our study adopted the definition formulated by Wilson Peres and Annalisa Primi, which was expressed as "New industrial policies are a set of tools, mechanisms and procedures, including incentive packages and regulations, as well as all forms of participation and partnerships in the economic activity adopted by the State to select, promote and develop specific economic activities based on the developmental priorities of the State." (Peres & Primi, 2009)

In accordance with this definition, it is possible to distinguish between two major types or packages of NIP, which are Horizontal/wide and Vertical/selective policies. Some added a third package called "Frontier policies".

Horizontal/wide industrial policy includes all forms of policies that have a great and an equaled impact on all economic sectors in the country, without discrimination or bias, such as macroeconomic stability policies, education, health, infrastructure, basic facilities and infrastructure, roads, transport, communications, expenditure on research and development (R&D), and development of the legislative, legal and institutional structure. This policy affects all economic sectors, and it has a direct impact on the overall economic competitiveness.

Vertical/selective Industrial Policies include all forms of policies that express bias or discrimination towards a specific sector or activity in the economy in order to influence its growth rates, export capacity or productivity levels. (Rodrik, 2004).

In other words, these policies are more targeted and more selective, where the state approves and implements them, aiming to stimulate and develop the capabilities in one or more of activities or sectors, through a wide and specific supporting system that is directed only at these selected activities. (Hausmann, & Rodrik, 2003)

Frontier Policies represent an advanced position for the role of industrial policies via targeting promotion in the cognitive limits of economic activity in the country. They are concerned with the development of the frontiers and ceilings of knowledge production in

the economy. These policies include all measures taken by the State to promote a broader developmental vision for countries and societies, which primarily aim at innovating, creating, and developing of technological and scientific capabilities to generate new innovative products and activities that restructure the economy.

Applied economic studies proved that there is a wide divergence among researchers in assessing benefits and risks associated with government intervention and implementation of NIP. Many rejected this intervention, depending on the role of the market mechanism to guide and manage the economy.

Another team adopted such a governmental intervention role, via applying NIP, to re-adjust the economic structures that are compatible with market rules. Many studies on sustainable growth have confirmed that structural transformation may not be sustainable, especially with respect to its social aspect, where structural transformation may lead to an unjustified economic growth that increases inequities and poverty. (Bartholomew, et al., 2014).

Some applied studies examined the economic impact of governmental intervention and industrial policies, via assessing the relationship between reducing economic concentration or increasing economic diversification, and economic growth, expressed by GDP per capita growth, and based on cross section data for 50 countries. It was found that low-income countries became more income-earning, more productive, and more employable when concentration declined (increasing in diversification). This relationship continues until it reaches a certain high-income level, and then begins to transform, where countries become richer and with higher income, as the concentration increases. The final relationship between concentration and GDP per capita income growth is formed in a (U) shape. This result can be explained by the fact that countries at the beginning of development track are more dependent on limited sectors and economic activities, associated with low income averages. Then Increasing and adding more activities and products, (manufacturing and service activities) will lead to an actual increase in production, employment, and incomes. At a certain high level of income, economies move towards specific sectors and activities characterized by their value-added and technical content, which means increasing concentration, but at a higher income level. (Harrison & Rodriguez, 2009)

Our study adopted the general trend of a broader role for the

governmental intervention to achieve the required structural transformation in the Arab economies. This trend is based on real economic status that shows actual differences in performance, knowledge, value-added, and technology within sectors and activities. Therefore, this intervention is very important to reduce these differences. In addition to addressing the obstacles which prevent the structural change process by affecting costs and returns of the economic activities, it is required to stimulate activities that can drive long-term growth and capital accumulation, improve productivity, and diversification, which are mainly focusing on technology-based activities and higher cognitive content.

5 - Modern Applications of New Industrial Policies: Description, Mechanisms, Requirements and Fundamental Determinants

Arab countries can implement the packages of the NIP (horizontal, vertical and frontier) in various areas in their economies by taking into consideration the characteristics and challenges of each one. These packages aim to reduce deficiencies that prevent growth and development in economic sectors and activities. These deficiencies are either associated with market or government. (Cimoli, et al., 2006). These NIP fields are presented as follows:

The first field: adopting and implementing the policies of stability and establishing an integrated public incentives system, directed towards economic activities that will enable economic activities to keep stable and feasible with a sustainable and predictable track. This includes the efforts of the State to provide and secure a macroeconomic environment, especially procedures that secure the intellectual property rights, price regulation, appropriate exchange policies, effective application of monetary policies and interest rates in addition to adopting equivalent fiscal policies and disciplined tax exemptions that are restricted to the requirements of efficient competitiveness and productivity.

The second field: requiring governmental intervention to establish permanent pillars for scientific and technological innovation, including the scientific policies, expansion of high-tech projects, funding of university research, establishment of research centers and support of research and development (R & D) issues.

The third field: adopting the policies aimed at establishing learning bases, transferring experiences, improving technological capabilities, and localizing knowledge and technology in the economic activities. This

includes the role of the state in formulating advanced policies in education and training, workshops and societal and specialized discussions to predict and determine the priorities of national research issues, training support, implementation plans and programs for building and shaping skills, international cooperation in researches, and providing incentives for Foreign Direct Investment (FDI).

The Fourth Field: adopting the policies of supporting the selective industries and activities, which include several mechanisms, such as: quotas or tariffs system, credit export, special economic zones, role of privatization, financing, providing public guarantees system, government procurement programs, and providing public facilities, quality infrastructure, and standards reform to enhance productive sectors.

The fifth field: dealing with policies of selective processes, which include: entry and exit companies regulations, the principle of "live and let others die", political will to put an end to the support of failed companies and activities, competition policies, countering monopoly, easing access to finance, and providing long-term financing.

The sixth field: distributing information policies, which include: team work mechanisms, standards, consultative forums, role of commercial chambers, national and international cooperation, promotion of export programs, and generalization of successful experiences.

The seventh field: improving companies and entrepreneurship productivity which include: providing administrative and technical training for small and medium-sized enterprises (SMEs), providing and developing the infrastructure, financing and managing their incubators and cluster formation, strengthening public-private partnerships (PPP), promoting marketing, improving economic infrastructure, and establishing funds of venture capital.

These new industrial policies fields can be applied across different governmental and geographical levels. Also, a thorough review of these fields shows inclusiveness and breadth of the industrial policies application and their extension to wider scope than in the previous practices.

The successful implementation of the NIP in the Arab countries requires quantitative and qualitative efforts that pass through three basic phases: the first phase includes defining of concepts and designing of policies clearly and unambiguously; the second phase includes determin-

ing implementation steps, mechanisms, timing, and stages; while the third phase includes Assessment process, and commitment to continuous feedback mechanism among the three phases. These phases guarantee the validity and accuracy of the selection process, which enables avoiding risks of rent economy.

It should also be emphasized that the Arab countries should prepare a prior plan to achieve consensus on the developmental and sectoral priorities, which will ensure translating the policies into development plans and programs, contributing in changing economic, productive, and social structures.

The scope of NIPs success depends on two basic dimensions: first, the efficiency of policy-making and the ability of public institutions to carry out design, implementation, and evaluation of these policies; second, the availability of tools, which in turn depend on development strategies of the state and their specific objectives. These two dimensions define the scope of the successful application of NIPs given the three levels of their application: the horizontal, vertical and frontier industrial policies, each with its different sets of tools and objectives.

Countries with less developmental and institutional capacity can often adopt only the applications of horizontal policies, which in turn do not require sophisticated institutional structure. Selective policies require a higher degree of institutional capacity, capable of dealing with specific sectors and activities, which deal with a wide range of tools, such as foreign direct investments and their guidance mechanisms, incentives for specific sectors and products, activities and programs to support competitiveness of selected activities, completion of relevant international trade negotiations or agreements, and they may also include direct production by state-owned companies or use contracts of government procurement programs.

On the other hand, frontier policies of intervention to develop the frontiers of knowledge production in the economy and create new activities, products and innovations, require more complex strategies and more sophisticated and effective institutional capacities and capabilities. Moreover, developing knowledge frontiers needs using tools, such as development of national programs in biotechnology and nanotechnology and scientific, technological, and productive capacities in selected areas through technological parks and research associations.

Institutional structure in Arab countries according to the Worldwide Governance Indicators (WGI, 2017), indicates a failure of all Arab countries in achieving acceptable values on this indicator, with a clear degree of disparity in the quality of institutions among Arab countries, according to the six dimensions of governance indicators shown in Table. 4.

Table 4 shows that a few of the Arab countries, especially the GCC have succeeded in achieving positive values in some governance indicators, while most of the Arab countries recorded negative values.

Finally, we can observe a direct link between governmental intervention through application of new industrial policies and governance indicators, such as government effectiveness, control of corruption, accountability, regulatory quality, and rule of law. The successful implementation of the NIP remains subject to the objectives and performance of government institutions, which have formed the current structures in the state. (Robinson, 2009; Strachman, 2001).

This shows that improving institutions in Arab countries is a prerequisite condition to achieve a successful and effective implementation. In particular, the governmental intervention, aimed to modify the structures of economy and society, must be based on a clear political will to ensure the success and sustainability of the applications of these policies. Institutional delay may practically explain the involvement of most Arab countries in the application of horizontal industrial policies rather than vertical or frontier policies.

Table (4)
Institutional Performance in Arab Countries - WGI: average 2010-2015

Country/ indicator	Control of Corruption	Voice and Accountability	Rule of Law	Political Stability and Absence of Violence	Regulatory Quality	Government Effectiveness
Algeria	-0.490	-0.895	-0.765	-1.140	-0.795	-0.550
Bahrain	0.350	-0.99	0.500	-0.335	0.745	0.525
Djibouti	-0.490	-1.195	-0.830	-0.245	-0.650	-0.890
Egypt	-0.600	-1.04	-0.195	-0.970	-0.370	-0.495
Iraq	-1.340	-1.265	-1.635	-2.335	-1.305	-1.405
Jordan	0.170	-0.695	0.320	-0.275	0.210	0.060
Kuwait	0.350	-0.515	0.550	0.260	0.265	0.095

Cont/ Table (4)
Institutional Performance in Arab Countries - WGI: average 2010-2015

Country/ indicator	Control of Corruption	Voice and Accountability	Rule of Law	Political Stability and Absence of Violence	Regulatory Quality	Government Effectiveness
Lebanon	-0.700	-0.35	-0.490	-1.285	-0.080	-0.270
Libya	-1.090	-1.725	-1.015	-0.290	-1.485	-1.265
Mauritania	-0.465	-0.96	-0.765	-0.725	-0.58	-0.615
Morocco	-0.280	-0.72	-0.165	-0.510	-0.245	-0.240
Amman	0.185	-0.975	0.515	0.765	0.460	0.365
Qatar	0.920	-0.69	0.74	1.100	0.350	0.625
Saudi	-0.195	-1.680	0.085	-0.280	0.055	-0.410
Somalia	-1.700	-1.925	-2.28	-2.905	-2.305	-2.165
Sudan	-1.375	-1.725	-1.43	-2.295	-1.33	-1.395
Syria	-0.840	-1.64	-0.565	-1.165	-1.025	-0.800
Tunisia	-0.150	-0.67	0.001	-0.095	-0.145	0.220
U A E	1.075	-0.865	0.470	0.905	0.545	0.850
Palestine	-0.905	-0.915	-0.395	-1.670	-0.380	-0.865
Yamen	-0.985	-1.21	-1.255	-1.850	-0.805	-1.035

Source: Calculated from the World Bank (2017): Good Governance Database for the years 2010-2015. (<https://data.worldbank.org/data-catalog/worldwide-governance-indicators>)

- The values of the index ranges between (2.5- to 2.5)

6 - Applications of New Industrial Policies (NIP) in Arab Economies

At the level of horizontal industrial policies, and since 1950s, all Arab countries have applied plans, policies, and financial programs aimed at building and developing infrastructure, roads, transport, communication networks, education, training, financial services systems, legislation, economic laws that encourage investment, growth as well as establishing many economic and financial institutions involved in implementing and monitoring these efforts.

Implementation of the horizontal policies began at the stage of

launching the development path in Arab countries that laid the foundation for establishing the pillars of the new independent national states. Besides, it has been noticed that these achievements in general have not reached sustained momentum for the past half century, and they have varied among Arab countries due to resource restrictions and to external circumstances, such as wars, conflicts and climate change. Although most of the Arab countries seem to be able to adopt horizontal policies, the current outcomes of many aspects of these policies prove the failure of most of these countries in implementing them.

Table (5) shows some aspects of the Global Innovation Index (GII), which comprises a wide range of sub-indicators that ultimately measure and evaluate seven key areas of innovation that reflect the countries efforts to establish innovative economies, and their horizontal industrial policy effectiveness.

Table (5)
Evaluation of the Results of Applications of Horizontal Industrial Policies in Arab and Comparison Countries Considering the Indicators of Innovation - 2017

Country/ Indicator (ranking - 127)	International Index of Innovation	Institutions	Human Capital and Re- search	Infra- structure	Markets	Business Environ- ment	Cognitive and tech outputs	Creative outputs
UAE	35	25	22	29	33	25	71	47
Qatar	49	37	58	26	85	84	55	54
Saudi Arabia	55	88	31	40	51	54	62	74
Bahrain	66	51	73	38	84	93	73	71
Morocco	72	70	63	51	89	122	77	68
Tunisia	74	77	44	70	98	112	69	76
Amman	77	39	51	56	72	126	100	91
Lebanon	81	100	78	88	96	61	82	81
Jordan	83	64	83	87	116	104	79	72
Egypt	105	121	82	93	107	120	93	97
Algeria	108	103	86	79	122	119	107	116
Yemen	127	126	120	126	117	123	126	124

Table (5)
Evaluation of the Results of Applications of Horizontal Industrial Policies in Arab and Comparison Countries Considering the Indicators of Innovation - 2017

Country/ Indicator (ranking - 127)	International Index of Innovation	Institutions	Human Capital and Re- search	Infra- structure	Markets	Business Environ- ment	Cognitive and tech outputs	Creative outputs
Comparison economies								
Switzerland	1	8	7	6	7	3	1	3
United States	4	17	13	21	1	8	7	10
Singapore	7	1	5	2	4	2	11	32
Korea	11	35	2	13	14	17	6	15
Norway	19	5	21	1	22	23	22	20
China	22	78	25	27	28	9	4	26
Malaysia	37	53	35	45	20	48	36	45

The Global Innovation Index 2017 Innovation Feeding the World Tenth Edition Index

This indicator showed that Arab economies rankings range from (35) in the UAE to (127) in Yemen. Most of those economies occupied the bottom half of this ranking. Although some of these economies have achieved relatively high performance, such as Qatar, Saudi Arabia and Bahrain, they failed, however, to achieve an acceptable ranking compared to the countries with similar income categories in developed and emerging countries such as Switzerland, South Korea, USA, Norway, and China. A performance gap was clear and wide in all aspects of this indicator, which in turn is attributed to the application of horizontal industrial policies taking into consideration that Arab countries have launched development efforts before some comparative countries such as China, Singapore, Korea, and Malaysia.

Our Study tries to clarify the previous analysis by examining the relationship between economic capacity, expressed in terms of average GDP per capita levels, and innovation index rankings. Figure 3 shows that all Arab economies lie under the trend line. In contrast, all comparative countries lie above the trend line.

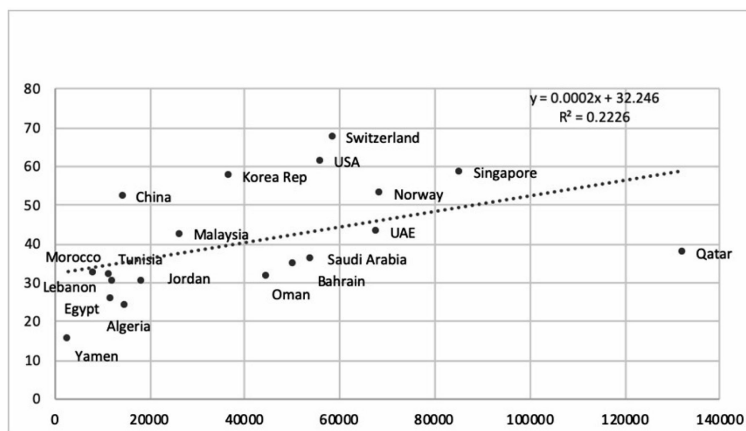


FIGURE 3: Relationship between economic capacity expressed in per capita income and innovation-based economies in some Arab and comparative countries

Source: The researcher prepared this figure based on data from the Global Innovation Index and per capita income according to World Bank statistics - World Bank Database 2017.

This shows the failure of Arab countries - in varying degrees - in translating their economic capacities and power to actual productive and exporting capacities based on innovation like the levels achieved by all comparative countries. This analysis fully confirms what has already been observed in this study. It is possible for the countries in comparison, especially China, Korea, Singapore, and the United States, to occupy the most advanced positions in the world, within the list of the highest economies that contribute in high technological export.

At the level of vertical or selective industrial policies of Arab countries, there is some evidence and indicators referring to the failure of all Arab countries in implementing these policies. One of these indicators that shows Arab economic weakness in applying this policy is the level of involvement in Global Value Chains (GVCs) and the nature of this participation (i.e., forward & backward GVC participation). Although some Arab economies such as Saudi Arabia, Morocco, and Tunisia have participated in these international chains at rates of 50.7%, 45.3%, and 43.3% reflecting the percentage of total export volumes for Tunisia, Saudi Arabia and Morocco respectively, and showing that they exceed the rates achieved by some developed and emerging countries like China (47.7%), Indonesia (43.5%), and Canada (42.4%), this participation has

been characterized by its low value-added and its failure to reach the levels achieved by countries, such as Malaysia (60.4%), Singapore (61.6%) and Korea (62.1%). This reaffirms the continuity of the traditional production structure in the Arab economies without modification or expansion in quality dimensions

Comparing this indicator in the case of Saudi Arabia with a high-oil revenue country such as “Norway”, shows a wide gap in performance despite their similar acquisition of natural oil resources, where in Norway this indicator was 57.7%.

Finally, Arab countries have made relatively large efforts to implement horizontal industrial policies without achieving the desired results, which can be attributed to the fact that in most cases these efforts were driven by societal and political needs rather than by targeting building a long-term economic and developmental framework that suits economic development and prosperity, especially in the early stages of launching their developmental path.

On the other hand, the vertical industrial policy applications in Arab economies lacked enough time for the selected activities to enjoy the economic advantages and benefits especially at the beginning of the development path where most Arab economies have protected and supported their strategic activities in iron and steel, cement, aluminum, metallurgy, and oil-related industries, especially refining, coke, and petrochemicals in addition to many services such as financial and banking services, in particular. This performance led to weaknesses in economic structures established under the full protection system. Arab countries are currently facing the same problems where several of them like Saudi Arabia, Egypt, Morocco, and Algeria are engaged directly in high value-added activities within the framework of implementing economic diversification plans such as auto assembly industries, civil and military transport equipment, renewable energy, and medical industries.

Although there are significant national and foreign financial investments directed towards these activities, there are no evidences showing the linkages between these selected activities and their expected role in sustainability, competitiveness, and adjustment of economic structures in Arab countries. This poor Arab economic performance comes at a time when many emerging and developing countries have

implemented innovative industrial policy packages successfully and effectively, such as China, South Africa, Turkey, Malaysia, India, and others. They have established, settled, and developed many new industries and activities within their production structures in a shorter period than in Arab States.

Although some Arab countries have applied selective or vertical industrial policies to enhance selective activity like Egypt since the 1950s and Morocco since 1999 which have focused on automotive industry beside other activities, such as textiles, it has been noticed that policies have mainly concentrated on issues such as improving business climate, attracting foreign direct investment, enhancing infrastructure, developing financial systems, supportive legislation especially approval of profits transference, and expanding free trade zone arrangements. Most of these policies tend to be horizontal, rather than vertical policies. Also, it has been observed that these countries have established a similar or competitive production structures such as automotive industries which are still limited to the range of "assembly" rather than "production". (Haddach1, et al.,2017).

It would have been better for Arab countries to establish an auto industry that addresses the future demand through involving in auto electric and auto solar-powered production which support actual innovation and increase real and sustainable use of local potential resources of these new industries that set new comparative advantages in Arab economies.

These matters dictate the necessity to redesign these incentives and intervention mechanisms, within the framework of clear and ambitious future goals to target activities and industries instead of sector targeting, as well as to modify the targets from products associated with traditional technology to more relevant products and new technologies. All these advantages associated with the selection process are set and tied to performance and a specific time limit.

Our study confirmed the importance of government intervention through NIP to achieve the structural transformation of the Arab economies. The problem lies in nature of the current international environment for the application of such policies and the acceptance of international rules of action based on freedom and competition. State interference, bias or discrimination in sector, activity or industry remains

within the national economy and the benefits of such discrimination are isolated from other activities and competitors.

This intervention and its industrial policies application have historically been associated with the potential to protect and subsidize these industries. This was acceptable in previous historical periods, in the developed economies, especially England, France, Germany and Japan, and later in emerging economies, especially in Korea, Malaysia, and Singapore. (Lall, 2004). However, these inputs are no longer available in the context of globalization, openness, and World Trade Organization (WTO) commitments, which have reduced the powers and sovereignty of states, to adopt and implement the desired policies, programs, and procedures, especially with regard to the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS), which protects inventors and patents up to 25 years; and the Agreement on Trade-Related Investment Measures (TRIMS), which imposes performance requirements on foreign companies in terms of local content or export requirements, while preventing local product preference within local purchasing; and the General Agreement on Trade in Services GATS), which includes the most favored nations (MFN) principle and the "national treatment" principle in addition to the Convention on Subsidies and Countervailing Measures, which prohibit the use of certain subsidies to support domestic products and export subsidies (excluding agricultural commodities)

These constraints represent a greater burden on developing countries, including Arab countries, which have not been able to keep up with the historical development track of developed and emerging countries, or to adjust their economic and productive structures in accordance with previous international labor rules that allow intervention, protection, care, discrimination, and selection, which have ultimately led to further delays and Arab disparity from the rest of the world.

However, despite the apparent difficulty of applying industrial policies under these international constraints, agreements and requirements, there are multiple entries to use and employ the modern industrial policies without colliding with them. These entries are applied by many developed and emerging countries at present. Non-Actionable Subsidies can be used as tools for industrial policy. High-technology industries can be developed through the "Industrial Zones" mechanism and its

advantages and facilities recognized by the World Trade Organization (WTO), as well as the potential for R & D support in industries with high density technology, in accordance with the five-year survey period, as well as the potential to employ "support trade balance", although it is less limited and confined to addressing the problems of balance.

Although there is a trend of opposition or lack of support for the modern industrial policies, there is evidence that there are many international cases and experiences in which modern industrial policies are applied in different tools and levels, without a clear declaration by the state for adopting these industrial policies in a clear and independent manner. There are many countries that do not directly use the term "industrial policies", while there are widespread applications of declared policies in the areas of macroeconomics, education management, pension systems and regulation. They are the policies that belong to functional or horizontal industrial policies (Hausmann & Rodrik 2003)

We can also see that industrial policies have played an important role in the public policy decisions, which in turn influence private sector behavior, affect and guide the dynamics of the "real economy". Governments have industrial policies regardless of their economic orientation, even if industrial policies do not have an independent existence within their traditional definition. In a country such as the United States of America, which rejects all forms of state intervention in economic activity, and what it requires to act according to the rules of the market, and the bases of economic freedom and full competition, multiple applications of modern industrial policies in the American economy have been observed in the past and the present despite absence of a formal industrial policy in the country. The United States has practically applied many governmental measures (regulation, subsidies, incentives) to develop or enhance specific productive activities, which shows their application of industrial policies even if they have not been declared, as demonstrated by the evolution of the industrial track in the United States of America, especially during the eighties of the last century. It is noted that the federal government has taken measures to support selected industries and activities. The most important tools include issuing legislation for Intellectual Property Rights (1980) related to innovations arising from technological activity and research and development processes in universities and research centers, which have received federal assistance from government; accordingly, the USA is biased to its existing industries, which are

based on innovation and knowledge. Also, emerging economies in Asia and Latin America, are applying these industrial policies, but under other terms such as export promotion policy, outward orientation policies, foreign direct investment policies, and support of the industrial zones. (Rodrik, 2007). They are fully compatible with their components and elements with the general structure of NIP, but without calling for the description of "industrial policies." (European Commission, 2016).

7 - Conclusion

The study discussed the importance of government intervention in the application of new industrial policies (NIP) in developed and emerging economies where this NIP (horizontal and vertical) modified their economic structures and created new ones that are more dynamic.

Although most Arab countries have applied some aspects of this NIP to modify their economic structures during the last decades, there have not been significant achievements, and they are still suffering in their endeavors to upgrade their economic structures. Accordingly, Arab economies need an effective government intervention to apply this NIP package, including issues, such as coordination with private sector, transparency, accountability, and avoidance of government failure risks which can be more costly than market failure.

This approach will achieve structural transformation and enable Arab economies to avoid risks of low- or medium-income traps, depending on continuous efforts to develop and redirect their economic activities towards more upgraded and innovated patterns. Moreover, adopting new industrial policies in Arab economies, especially vertical or selective policies, enables each country to choose and determine its convenient priorities, but it should be designed according to clear economic criteria, such as economic growth, productivity, export, innovation and contribution in global value chains - GVCs.

Finally, the study confirms that Arab governments commitment to implement this intervention (package of NIP), will force them to achieve developmental goals by stimulating the private sector and improving the productivity and competitiveness of economic activities. Furthermore, it will pose a challenge for Arab economies to move away from their existing comparative or traditional advantages to settle down new ones in their economic structures.

8 - Reference

- Aiginge, K. (2002): *Speed of change and growth of manufacturing*. Austrian Institute of Economic Research (WIFO) Vienna. Austria. (www.oecd.org/sti/ind/2076797.pdf)
- Amable, B. (2000). International specialization and growth, *Structural Change & Economic Dynamics*, (11): 413-431.
- Bartholomew, A., Keita, R., Gueye, A., Bosco, V., Judith Ameso, J, & Chinzara, Z. (2014). Structural transformation for inclusive development in Africa- The role of active government policies. UNECA. August 2014.
- Hidalgo, C., & Hausmann, R. (2009). "The Building Blocks of Economic Complexity", Center for International Development and Harvard Kennedy School, Harvard University.
- Cimoli, M., Dosi, G., Nelson, R., & Stiglitz, J (2006). Institutions and policies shaping industrial development. An introductory note. Paper prepared for the task force on Industrial Policies and Development. New York: Columbia University.
- European Commission (2016). The investment plan for Europe State of play. http://ec.europa.eu/priorities/sites/beta-political/files/investment-plan-eu-wide-state-of-play-july2016_en_0.pdf
- Financial Times. (2016). Cyber 3 Conference- Tokyo 2016. (<https://www.ft.com>)
- Frank, C. (2015). *Industrial policy in Latin America: Contemporary development strategies and their determinants*. March 2015. <http://people.carleton.edu/~amontero/Cole%20Frank.pdf>
- Haddach. A., Ben Allal. L., Laglaoui. A., & Ammari. M. (2017); Moroccan automotive industry: Opportunities and perspectives. *American Journal of Engineering Research*. 6(8): 75-82. ([http://www.ajer.org/papers/v6\(08\)/K06087582.pdf](http://www.ajer.org/papers/v6(08)/K06087582.pdf))
- Harrison, A., & Rodriguez, A. (2009). Trade, Foreign investment, and industrial policy. MPRA Paper 15561. Munich: University Library of Munich.
- Hausmann, R., & Rodrik, D (2003). Economic development as self-discovery, *Journal of Development Economics*, 72 (2): 603-33.
- Hobday, M. (2009). Can we learn lessons from East Asia?. Paper presented at the UNU-Wider, UNU-Merit and Unido Workshop on

Pathways to 27 Industrialization in the 21st Century: New Challenges and Emerging Paradigms, 22- 23 October. Maastricht.

- http://ec.europa.eu/priorities/jobs-growth-and-investment/investment-plan_en(october 2016)
- http://www.arabstates.undp.org/content/rbas/ar/home/library/huma_development/arab-human-development-report-2016--youth-and-the-prospects-for-.html
- <https://atlas.media.mit.edu/en/resources/methodology/>
- Lall, S, (2004). Reinventing industrial strategy: The role of government policy in building industrial competitiveness, United Nation Conference on Trade and Development, No.28. April 2004.
- Lin, J. (2012). *New structural economics: A framework for rethinking and development*.
- Lin, J., & Monga, C. (2017): *Beating the odds jump-starting developing Célestin countries*. <https://press.princeton.edu/titles/10931.html>
- Lin, J., Monga, C., & Standaert, S (2017). The inclusive sustainable transformation index. African development bank group. Working paper No.257.may 2017.
- Memedovic, O., & Apadre, L (2010). Structural change in the world economy: Main features and trends. United Nations Industrial Development Organization Vienna. UNIDO (2010).
- Naude, W. (2010). Industrial Policy - old and new issues, Working Paper No. 2010/106. September 2010, Copyright © UNU-WIDER 2010 * UNU-WIDER, Helsinki, ISSN 1798-7237 ISBN 978-92-9230-344-0.
- Peres, W., & Primi, A, (2009). Theory and practice of industrial policy. Evidence from the Latin American Experience Wilson Peres Annalisa Primi”, (http://repositorio.cepal.org/bitstream/handle/11362/4582/1/S0900176_en.pdf)
- Robinson, J. (2009). Industrial policy and development: A political economy perspective. Harvard University Department of Government and IQSS. May 2009. Working Paper prepared for the 2009 World Bank ABCDE conference in Seoul June 22-24. MPRA, UNESP.
- Rodrik, D. (2004). Industrial policy for the twenty-first century. CEPR Discussion Paper 4767. London: Centre for Economic Policy Research.

- Rodrik, D. (2007). *Normalizing industrial policy*. Cambridge, MA: John F Kennedy School of Government, Harvard University. Mimeo.p.35.
- Silva, G. & Teixeira, A (2008). Surveying structural change: Seminal contributions and a bibliometric account, *Structural Change and Economic Dynamics* 19.
- Strachman, E (2001). Relations between institutions and industrial policies.
- Szirmai, A. (2009). Industrialization and an Engine of Growth in Developing Countries, 1950-2005. Paper presented at the UNU-Wider, UNU-MERIT and UNIDO Workshop on Pathways to Industrialization in the 21st Century: New Challenges and Emerging Paradigms, 22-23 October. Maastricht.
- Stojkoski, V., & Kocarev, L. (2017). The relationship between growth and economic complexity: Evidence from Southeastern and Central Europe, Macedonian Academy of Sciences and Arts, Munich Personal RePEc Archive MPRA, 2017. (https://mpra.ub.uni-muenchen.de/77837/3/MPRA_paper_77837.pdf)
- WITS (2017): <http://wits.worldbank.org/WITS/WITS/Results/Query-view/QueryView>.
- World Bank. (2017). Good governance database. (<https://data.worldbank.org/data-catalog/worldwide-governance-indicators>)

Submitted: January, 2018

Accepted: May, 2019

