Policy Paper

May 2023

How Can Moroccan Regions and Sectors Help to Achieve the 'New Development Model' Goals?

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PP - 07/23

This paper presents a synthetic view of the socioeconomic and environmental impacts of the economic sectors and regions that make up the Moroccan economy, taking into account the current economic structure and production technologies. Therefore, the potential effects must be understood as signals to think about interventions aimed at redirecting the desired trajectories of sustainable development. The application of the tools developed to give scientific support to this analysis reveals the current structure of Morocco's regional economies, inserted into the context of the national and world economies. The intricate web of interrelationships between the different sectors of each region's productive apparatus—manifested by its supply chains, the generation of income by sectors, and their expenditures—is duly represented. Each of the 20 sectors into which the Moroccan economy was divided produces distinct effects on the productive system as a whole, duly measured by the instruments developed. Likewise, when analyzing the 12 regional economies one by one, one can assess their multidimensional impacts in the context of an integrated interregional system. Finally, to implement the hierarchical analysis based on pre-defined weights for the different structural indicators considered in the study, a tool was developed that provides a hierarchy of sectors (regions) most likely to contribute to the dimensions of development most closely associated with revealed preferences of the actors involved in the decision-making process.

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The PCNS pleads for an open, accountable and enterprising "new South" that defines its own narratives and mental maps around the Mediterranean and South Atlantic basins, as part of a forward-looking relationship with the rest of the world. Through its analytical endeavours, the think tank aims to support the development of public policies in Africa and to give the floor to experts from the South. This stance is focused on dialogue and partnership, and aims to cultivate African expertise and excellence needed for the accurate analysis of African and global challenges and the suggestion of appropriate solutions.

As such, the PCNS brings together researchers, publishes their work and capitalizes on a network of renowned partners, representative of different regions of the world. The PCNS hosts a series of gatherings of different formats and scales throughout the year, the most important being the annual international conferences "The Atlantic Dialogues" and "African Peace and Security Annual Conference" (APSACO).

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Policy Center for the New South

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1. INTRODUCTION

This study presents an 'X-ray' of Morocco's productive structure. We start with a photograph of the internal composition of the productive system of each Moroccan region, integrated into a broader economic space (the rest of Morocco and the rest of the world). More than an X-ray, which only provides one-dimensional images, this work promotes analytical advances similar to imaging diagnoses that use modern methods to provide images in multiple dimensions. In the same way that other diagnostic imaging technologies have been improved, making available a wide range of tests used for diagnosing diseases, the techniques employed here allow for a detailed characterization of the economies that make up Morocco.

The photograph analyzed refers to an inter-regional input-output system, estimated within the framework of a joint project involving researchers from the PCNS, the University of São Paulo, and the Ministry of Economy and Finance of Morocco. The project assesses the interdependence of 20 productive sectors, 12 Moroccan regions, and the rest of the world. This photograph is the result of a broad and complex historical process of socioeconomic development. Just as a radiologist uses her knowledge to interpret the results of a radiological examination, our tools favor a structural diagnosis of the economy that allows the identification, based on a set of multidimensional indicators, of possible areas subject to intervention, so that the photograph is altered according to the desired characteristics.

Often, radiological procedures are performed with the addition of contrast to enable a better evaluation of certain organs and structures. Here, complementary techniques are also used to obtain results that better characterize specific sub-national and sectoral structures. It is important to point out that there is no 'best' method of structural diagnosis of an economy, since different analytical tools are appropriate for the evaluation of different issues.

Another aspect highlighted by the study is the systemic treatment given to the regional productive structures. Similar to total body diagnoses, currently performed with techniques that capture images of the entire body in a single scan, providing a skeletal view that broadens the understanding of the interrelationship between the various bone structures of the human body, our approach, which considers the regional economies inserted into an integrated interregional system, helps us to identify the presence and intensity of the compensatory mechanisms of maintenance of the general equilibrium of the economic system.

Our image with high spatial and sectoral resolution allows us to better differentiate and analyze the socioeconomic fabrics present in Morocco through a broad set of tools, presented in a sequence of increasing complexity. The multidimensional nature of our study thus enables greater precision in diagnosing structural opportunities and threats, in line with the country's sustainable development path.

The process of industrialization in Morocco is still in its relative infancy. The photograph we see is of a still-young system, but it already reveals several outcomes of the processes that have shaped it so far. It is not the intention of this study to analyze these processes in depth. Just like the function of a radiologist, it is important to recognize some aspects of the young patient's life history without, however, losing focus on the main objective of diagnosing, as precisely as possible, existing diseases or structural impairments revealed by the image. It is not possible to anticipate details of the patient's health in her adult life, but it is possible to identify needs for changes to habits that could compromise it.

So, in the words of Prof. Tomás Dentinho, regional science, as "*territorial medicine*", contributes to finding the 'cure' for the crucial problems of peoples and places (Dentinho, 2017). This study

illustrates the use of regional and interregional analysis methods in the case of Morocco through an interdisciplinary and open approach, its methodological capacity, and its diversified spatial scope. It is just the diagnosis. The 'cure' will depend on what is intended as a lifestyle for today's patients and for patients of future generations.

2. SECTORAL AND REGIONAL TYPOLOGIES

This section presents a synthetic view of the socioeconomic and environmental impacts of the economic sectors and regions that make up the Moroccan economy, taking into account the current economic structure and production technologies. Therefore, the potential effects must be understood as signals to think about interventions aimed at redirecting the desired trajectories of sustainable development.

2.1 Impacts of Economic Activities

We use input-output analysis as our methodological anchor. We depart from an interregional input-output system estimated to represent the Moroccan economy in 2019, comprising 12 regions disaggregated into 20 economic activities (Haddad *et al*, 2021). The database is then used to calibrate an interregional input-output model, firstly applied to calculate a set of structural, modeling-based regional/sectoral indicators to help map potential trade-offs related to short-run socioeconomic outcomes of the post-COVID-19 economic recovery strategy. This set of indicators can inform decision-makers on the multi-dimensional potential effects of sectoral and regional stimuli. We finally develop a hands-on tool to understand the different trade-offs that may emerge when choosing relative weights for different policy goals (Haddad *et al*, 2022).

Application of the tools developed to give scientific support to this analysis reveals the current structure of Morocco's regional economies, inserted into the context of the national and world economies. The intricate web of interrelationships between the different sectors of each region's productive apparatus—manifested by its supply chains, the generation of income by sectors, and their expenditures—is duly represented.

Each of the 20 sectors into which the Moroccan economy was divided produces distinct effects on the productive system as a whole, duly measured by the instruments developed. Likewise, when analyzing the 12 regional economies one by one, one can assess their multidimensional impacts in the context of an integrated interregional system. Several dimensions were considered, which can be summarized in five main groups of indicators. From a strictly economic point of view, the ability of each sector (or region) to increase national production in the present is evaluated, and, as an additional strictly economic dimension, so is the ability to increase regional competitiveness in the future. Three other dimensions are highlighted: how the sector (or region) contributes to increasing or reducing regional and social inequalities in the country, and how it contributes to reducing the pressure on the use of natural resources. The increase (or reduction) in the importance of a certain sector (or region) has effects on each of these five dimensions, which can be conflicting (for example, improving growth but compromising the environment). Assessing the final effects requires relative importance to be assigned to each of the dimensions.

To implement the hierarchical analysis based on pre-defined weights for the different structural indicators considered in the study, a tool was developed that provides a hierarchy of sectors (regions) most likely to contribute to the dimensions of development most closely associated with revealed preferences of the actors involved in the decision-making process. The 17 structural indicators are described below.

2.2 Structural Indicators

We calculated different indicators at the regional and sectoral levels based on the interregional input-output database. Two additional indicators (GDP and export elasticities with respect to total-factor productivity shocks) were computed using an existing operational interregional computable general equilibrium model, calibrated with data for 2013. We present below the list of the structural indicators and their definitions.

Economic Effects in the Present (Immediate Impacts)

1. Share in national value added ($VASH_i^r$). This indicator represents the direct contribution of a regional sector's value added to the total value added in the country. It is a measure of the size of the regional sector in the national context.

$$VASH_i^r = \frac{n_i^r}{\sum_i \sum_r n_i^r}, \text{ with } i = 1, \dots, n \text{ and } r = 1, \dots, r \quad (1)$$

where n_i^r is the value added of sector *i* in region *r*.

2. Simple output multiplier (M_j^s). This indicator represents the total output produced by all sectors in Morocco in response to a one-dirham increase in final demand for a regional sector's output. The initial output effect on the economy is defined as the initial dirham's worth of the regional sector output needed to satisfy the additional final demand. Then, formally, the output multiplier is the ratio of the total effect (initial, direct, and indirect) to the initial effect alone. When maximum total output effects are the sole goal of government spending, it would always be rational to spend all the money in the sector with the largest output multiplier (Miller and Blair, 2009).

$$M_j^s = \sum_i \sum_r b_{ij}^{rs}, \text{ with } i, j = 1, \dots, n \text{ and } r, s = 1, \dots, r \quad (2)$$

where b_{ij}^{rs} is an element of the Leontief inverse matrix showing the total impact of a unit change in final demand of sector *j* in region *s* on the output of sector *i* in region *r*.

3. Share of net indirect taxes in total government revenue ($TXSH_i^r$). This indicator represents the direct contribution of a regional sector's payment of net indirect taxes (taxes less subsidies) to the total tax levied on economic activities collected by the government in Morocco. It is a measure of the relevance of the regional sector for the public accounts.

$$TXSH_i^r = \frac{t_i^r}{\sum_i \sum_r t_i^r}, \text{ with } i = 1, \dots, n \text{ and } r = 1, \dots, r \quad (3)$$

where t_i^r is the total payment of indirect taxes by sector *i* in region *r*.

4. Tax generator (T_j^s). This indicator represents the total indirect taxes paid by all sectors in Morocco in response to a one-dirham increase in final demand for a regional sector's output. The tax generator is one of the measures used to determine the impact a particular sector will have on

the government's revenues when stimulated. In its simplest terms, the tax generator measures the amount of initial, direct, and indirect tax revenue created in the country. Generally, sectors with a higher tax generator score are more desirable.

$$T_j^s = \sum_i \sum_r tax_i^r b_{ij}^{rs}, \text{ with } i,j = 1,\dots,n \text{ and } r,s = 1,\dots,r \quad (4)$$

where tax_i^r is the indirect tax coefficient of sector *i* in region *r*.

Economic Effects in the Future (Growth Sustainability)

5. GDP elasticities with respect to total-factor productivity (TFP) shocks ($\varepsilon_{i,r}^{GDP}$). The idea behind this indicator is to map the GDP effects associated with regional and sectoral TFP shocks, bringing additional insights to the understanding of the role in the Moroccan economy played by regional-specific policies related to different activities. The indicator measures the percentage change in GDP associated with a 1% change in the TFP of a regional sector.

$$\varepsilon_{i,r}^{GDP} = \frac{\partial GDP}{\partial TFP_{i,r}} \cdot \frac{TFP_{i,r}}{GDP} = \frac{\partial GDP}{GDP} \cdot \frac{\partial TFP_{i,r}}{TFP_{i,r}} \Rightarrow \varepsilon_{i,r}^{GDP} \cong \frac{\Delta\%\ of\ GDP}{\Delta\%\ of\ TFP_{i,r}}, \text{ with } i = 1,\dots,n \text{ and } r = 1,\dots,r \quad (5)$$

where $TFP_{i,r}$ represents total factor productivity of sector *i* in region *r*, and *GDP* is the real national GDP.

6. Export elasticities with respect to total-factor productivity (TFP) shocks ($\varepsilon_{i,r}^{EXP}$). The idea behind this indicator is to map the foreign export effects associated with regional and sectoral TFP shocks, bringing additional insights to the understanding of the role regional-specific policies related to different activities play in enhancing the international competitiveness of Moroccan exports. The indicator measures the percentage change in total foreign exports associated with a 1% change in TFP of a regional sector.

$$\varepsilon_{i,r}^{EXP} = \frac{\partial EXP}{\partial TFP_{i,r}} \cdot \frac{TFP_{i,r}}{EXP} = \frac{\partial EXP}{EXP} \cdot \frac{\partial TFP_{i,r}}{TFP_{i,r}} \Rightarrow \varepsilon_{i,r}^{EXP} \cong \frac{\Delta\%\ of\ EXP}{\Delta\%\ of\ TFP_{i,r}}, \text{ with } i = 1,\dots,n \text{ and } r = 1,\dots,r \quad (6)$$

where $TFP_{i,r}$ represents total factor productivity of sector *i* in region *r*, and *EXP* is the national real foreign exports.

7. Location quotient of skilled workers ($LQ_{i,q}^r$). This indicator identifies the sectors and regions that are truly unique and specialized in the absorption of skilled workers (compared to the national average). An awareness of the regional sectors with high-LQ of skilled workers can help the government develop programs that align to high-impact sectors. Supporting higher-impact regional sectors may be suitable for a sustained economic recovery with greater innovative potential.

$$LQ_{i,q}^{r} = \frac{L_{i,q}^{r}/L_{i,\bullet}^{r}}{L_{i,q}^{\bullet}/L_{i,\bullet}^{\bullet}}, \text{ with } i = 1, \ldots, n \text{ and } r = 1, \ldots, r \quad (7)$$

where $L_{i,q}^{r}$ is total employment of skilled workers q, in sector i in region r; $L_{i,\bullet}^{r}$ is total employment in sector i in region r; $L_{i,q}^{\bullet}$ is total employment of skilled workers q, in sector i in the country; and $L_{i,\bullet}^{\bullet}$ refers to total national employment in sector i.

Social Impacts

8. Employment generator (EMP_j^s). This indicator represents the total employment created by all sectors in Morocco in response to a one-dirham increase in final demand for a regional sector's output. The employment generator is one measure used to determine the impact a particular sector will have on total job creation when stimulated. Generally, sectors with a higher employment generator are more desirable.

$$EMP_j^s = \sum_i \sum_r emp_i^r b_{ij}^{rs}, \text{ with } i, j = 1, \ldots, n \text{ and } r, s = 1, \ldots, r \quad (8)$$

where emp_i^r is the employment coefficient of sector i in region r.

9. Employment of vulnerable workers generator ($VEMP_j^s$).This indicator is similar to the broad employment generator, focusing on a specific group of workers. We define vulnerable workers as those who are less educated and employed in informal urban labor markets. This group of workers was particularly affected by the COVID-19 pandemic. The indicator represents the total number of jobs potentially created for this group of workers by all sectors in Morocco in response to a one-dirham increase in final demand for a regional sector's output.

$$VEMP_j^s = \sum_i \sum_r vemp_i^r b_{ij}^{rs}, \text{ with } i, j = 1, \ldots, n \text{ and } r, s = 1, \ldots, r \quad (9)$$

where $vemp_i^r$ is the coefficient of employment of vulnerable workers of sector i in region r.

10. Female employment generator ($FEMP_j^s$). This indicator is also similar to the broad employment generator, focusing on female workers. It represents the total number of jobs potentially absorbing female workers, created by all sectors in Morocco in response to a one-dirham increase in final demand for a regional sector's output.

$$FEMP_j^s = \sum_i \sum_r femp_i^r b_{ij}^{rs}, \text{ with } i, j = 1, \ldots, n \text{ and } r, s = 1, \ldots, r \quad (10)$$

where $femp_i^r$ is the coefficient of employment of female workers of sector i in region r.

11. Youth employment generator ($YEMP_j^s$). This indicator is also similar to the broad employment generator, focusing on workers younger than 25. It represents the total number of jobs potentially absorbing young people, created by all sectors in Morocco in response to a one dirham increase in

final demand for a regional sector's output.

$$YEMP_j^s = \sum_i \sum_r yemp_i^r b_{ij}^{rs}, \text{ with } i,j = 1,\dots,n \text{ and } r,s = 1,\dots,r \quad (11)$$

where $yemp_i^r$ is the coefficient of employment of young workers of sector *i* in region *r*.

Regional Impacts

12. Share of Casablanca in the value-added generator ($Y_{j,CAS}^s$). The value-added generator considers the total amount of value-added embodied in a value unit of a regional sector's final demand. This indicator considers the share of total value-added internalized in Casablanca. The lower the share, the more desirable it is to reduce the concentration of economic activity in Morocco.

$$Y_{j,CAS}^s = \sum_i \sum_r va_i^r b_{ij}^{rs}, \text{ with } i,j = 1,\dots,n, r = \text{Casablanca, and } s = 1,\dots,r \quad (12)$$

where va_i^r is the value added coefficient of sector *i* in region *r*.

13. Share of lagging regions in the value-added generator ($Y_{j,SOUTH}^s$). The value-added generator considers the total amount of value-added embodied in a value unit of a regional sector's final demand. This indicator considers the share of total value-added internalized in regions outside the core ('the fish') of the Moroccan economic system[1]. The higher the share, the more desirable for reducing regional disparities in Morocco.

$$Y_{j,SOUTH}^s = \sum_i \sum_r va_i^r b_{ij}^{rs}, \text{ with } i,j = 1,\dots,n, r = \text{Oriental, Drâa-Tafilalt, Souss-Massa, Guelmin-Oued Noun, Laâyoune-Sakia EL Hamra, Dakhla-Oued Eddahab, and } s = 1,\dots,r \quad (13)$$

where va_i^r is the value added coefficient of sector *i* in region *r*.

14. Williamson's coefficient of regional inequality. This indicator is a weighting index that measures overall inequality across the regions of a country, using the information on *per-capita* value added. To capture the impact of a regional sector on regional inequality, we use as the baseline the Williamson's coefficient (population-weighted coefficient of variation), together with information from the value-added generator. The indicator shows the impact of a value unit change in a regional sector's final demand on overall regional inequality in Morocco. Sectors presenting lower values would be preferable.

1. In a broader territorial context, the presence of other relevant industrial areas outside Casablanca reveals the economic core of the Moroccan economy comprising six of its twelve regions, namely, Tanger-Tetouan-Al Hoceima (R1), Fès-Meknès (R3), Rabat-Salé-Kénitra (R4), Béni Mellal-Khénifra (R5), Grand Casablanca-Settat (R6) and Marrakech-Safi (R7), which, together, are responsible for over 80% of the GDP. Given the fish-shaped-like cartographical representation of the territorial limits of this cluster, this set of regions is referred to as the "fish"

Environmental Impacts

15. CO2 emission generator divided by the value-added generator ($CO2_j^s$). The CO2 emission generator considers the amount of CO2 embodied in a value unit of a regional sector's final demand, while the value-added generator considers the total value-added embodied in the same value unit of final demand. By computing the ratio of these two generators, the resulting indicator represents the total CO2 emissions, adjusted according to overall intensity, embodied in response to a one-million-dirham increase in final demand for a regional sector's output.

$$CO2_j^s = \frac{\sum_i \sum_r co2_i^r b_{ij}^{rs}}{\sum_i \sum_r va_i^r b_{ij}^{rs}}, \text{ with } i, j = 1, \dots, n \text{ and } r, s = 1, \dots, r \quad (14)$$

where $co2_i^r$ is the coefficient of CO2 emissions of sector *i* in region *r*; and va_i^r is the value added coefficient of sector *i* in region *r*.

16. Water consumption generator divided by the value-added generator ($H2O_j^s$). The water consumption generator considers the amount of water embodied in a value unit of a regional sector's final demand, while the value-added generator considers the total value added embodied in the same value unit of final demand. By computing the ratio of these two generators, the resulting indicator represents the total consumption of water, adjusted for overall intensity, embodied in response to a one-million-dirham increase in final demand for a regional sector's output.

$$H2O_j^s = \frac{\sum_i \sum_r h2o_i^r b_{ij}^{rs}}{\sum_i \sum_r va_i^r b_{ij}^{rs}}, \text{ with } i, j = 1, \dots, n \text{ and } r, s = 1, \dots, r \quad (15)$$

where $h2o_i^r$ is the coefficient of water consumption of sector *i* in region *r*; and va_i^r is the value added coefficient of sector *i* in region *r*.

17. Energy use generator divided by the value generator ($ENRG_j^s$). The energy use generator considers the amount of energy embodied in a value unit of a regional sector's final demand, while the value-added generator considers the total value-added embodied in the same value unit of final demand. By computing the ratio of these two generators, the resulting indicator represents the total use of energy from different sources, adjusted according to overall efficiency, embodied in response to a one-million-dirham increase in final demand for a regional sector's output.

$$ENRG_j^s = \frac{\sum_i \sum_r enrg_i^r b_{ij}^{rs}}{\sum_i \sum_r va_i^r b_{ij}^{rs}}, \text{ with } i, j = 1, \dots, n \text{ and } r, s = 1, \dots, r \quad (16)$$

where $enrg_i^r$ is the coefficient of energy use of sector *i* in region *r*; and va_i^r is the value-added coefficient of sector *i* in region *r*.

3. MULTI-DIMENSIONAL HIERARCHICAL ANALYSIS

We prepared a tool to implement a hierarchical analysis based on weights defined by the user[2]. As an outcome, the tool provides a hierarchy of regional sectors more likely to contribute to the dimensions of development more closely associated with the revealed preferences of the actors involved in the decision-making process.

We grouped the 17 indicators presented in the previous section into five different dimensions (Table 1). The selected dimensions reflect the spirit of the New Development Model (NDM), whose "*ambition is one of a Morocco that is thriving and prosperous, skilled, inclusive, and sustainable*" (Royaume du Maroc, 2021).

The main objective of this study is to provide robust analytical inputs to inform policymakers on the potential effects on growth, job creation, inclusion, and long-term sustainability of different stimuli provided to specific regions and sectors, in the context of the NDM. Economic recovery in the aftermath of the pandemic is expected to accelerate a transition to a more resilient, inclusive, sustainable, and efficient development model, as emphasized in the NDM document prepared by the Special Commission on the Development Model.

"*At the economic level, the Commission believes it is essential to accelerate the transformation of the economy with a view to making it more dynamic, diversified, and competitive, creating added value and decent employment, and generating resources to finance social needs. As the foundation for a* ***Thriving and prosperous Morocco****, the structural transformation of the economy requires, in particular (i) unleashing private initiatives and entrepreneurship through a transparent, secure and predictable business environment, streamlined and simplified regulations and independent regulation, promoting the entry of new and innovative players; (ii) improving the competitiveness of the productive fabric by significantly reducing input costs, particularly energy and logistics; (iii) directing private sector investments, from large corporations and SMEs alike, towards growth and high-potential sectors and towards the upgrading of production systems through a suitable incentive framework, greater access to diversified financing mechanisms and support for enterprises to strengthen their managerial, organizational and technological capacities; and (iv) enhancing the social economy and establishing it as a pillar of development and a source of decent job creation across regions.*" (Royaume du Maroc, 2021, pp. 9-10)

2. Alternatively, one can define the weights by aggregating preferences revealed by a set of stakeholders.

Table 1

Regional and Sectoral Structural Indicators

Dimension	#	Indicator	Source	Year
Economic Effects in the Present (immediate impacts)	1	Share in national value added	Input-output analysis	2019
	2	Simple output multiplier	Input-output analysis	2019
	3	Share in total government revenue of net indirect taxes	Input-output analysis	2019
	4	Tax generator	Input-output analysis	2019
Economic Effects in the Future (growth sustainability)	5	GDP elasticities with respect to TFP shocks	Interregional CGE model	2013
	6	Export elasticities with respect to TFP shocks	Interregional CGE model	2013
	7	Location quotient of skilled workers	Input-output analysis	2013
Social Impacts	8	Employment generator	Input-output analysis	2019
	9	Employment of vulnerable workers generator	Input-output analysis	2019
	10	Female employment generator	Input-output analysis	2019
	11	Youngster employment generator	Input-output analysis	2019
Regional Impacts	12	Share of Casablanca in the value-added generator	Input-output analysis	2019
	13	Share of lagging regions in the value-added generator	Input-output analysis	2019
	14	Williamson's coefficient of regional inequality	Input-output analysis	2019
Environmental impacts	15	CO2 emission generator divided by the value-added generator	Input-output analysis	2019
	16	Water consumption generator divided by the value-added generator	Input-output analysis	2019
	17	Energy use generator divided by the value generator	Input-output analysis	2019

The decision-making process involves the consideration of different dimensions, which are often conflicting, and choosing those of interest to society. The proposed tool facilitates this process since the expected impacts of each sector and region are assessed. Of course, there is still much room for judgment and choice, but the mapping of the paths to be chosen is more transparent. If policy choices always involve weighing different conflicting aspects, the difficulty is more significant the less is known about the magnitude and extent of the impacts of the choices.

A valuable instrument for weighing different types and intensities of impacts associated with these indicators is the hierarchical analysis, a multi-criteria analysis technique. This instrument makes it possible to analyze different dimensions together, allowing for impact assessments on multiple bases. Schematically, assuming that only the dimensions listed in Table 1 are involved in the decision process, the decision maker's problem is to assign weights to each dimension/indicator, as shown in Figure 1.

To ensure the necessary consistency of the weighting system, we should consider that the increase in influence in some dimensions/indicators must necessarily be compensated for by the decrease in the influence of another. Thus, the weights represented by letters in Figure 1 must comply with the following adding-up restrictions:

$$A + B + C + D + E = 100.0 \tag{17}$$

i.e. the sum of the weights assigned to five broad dimensions, economic effects in the present (immediate impacts), economic effects in the future (growth sustainability), social impacts, regional impacts, and environmental impacts, must necessarily be equal to 100. Any increase in importance for one must be offset by a decrease in importance for another.

In the same way:

$$\begin{gathered} A1 + A2 + A3 + A4 = 100.0 \\ B1 + B2 + B3 = 100.0 \\ C1 + C2 + C3 + C4 = 100.0 \\ D1 + D2 + D3 = 100.0 \\ E1 + E2 + E3 = 100.0 \end{gathered} \tag{18}$$

i.e. internally to the substantive dimensions, the sum of the weights of the indicators linked to each aggregate dimension must also necessarily equal 100.

Furthermore, each indicator was normalized, assuming values in the interval [0, 1]. For homogenization purposes, since each indicator is expressed as a different unit of measure, scores for each sector in each region were derived by applying the weighting scheme to the normalized indicators. Thus, each sector i in region r received an aggregate score $(SCORE_i^r)$, ranging from 0 to 100, which considers the relative weights for each of the five impact dimensions and 17 indicators. Thus, each of the 19 sectors[3] in the 12 regions receives a final score. Those with the highest scores are supposed to adhere more closely to the preferences revealed by the weights assigned to the dimensions/indicators.

Figure 1

Schematic Weighting Structure for the Hierarchical Analysis

		Survey
		To promote economic growth, government should implement policies that:
	A	Increase economic activity in the present, in sectors in which Morocco already stands out.
	B	Increase future competitiveness of the country through productivity-enhancing actions and innovation.
	C	Reduce social inequality. Generate more jobs and increase employment opportunities to youngsters and women in the labor market.
	D	Reduce regional inequality. Reduce concentration of output and employment in Casablanca and improve economic conditions of poorer regions.
	E	Improve environmental conditions, such as water availability, GHG emissions and energy efficiency.
	100.0	TOTAL
		1. The following alternatives reflect the effects of economic activities in the present. Which ones should the government prioritize?
1	A1	a) Activities with a large share in GDP ("bigger sectors")
2	A2	b) Activities that induce output in other activities in their production chain (high output multiplier)
3	A3	c) Activities with a large share in government tax revenue ("great contributors")
4	A4	d) Activities that boost tax revenue from other activities involved in the supply chain (tax revenue multiplier effects)
	100.0	Increase economic activity in the present
		2. To improve future competitiveness, which policies should the government implement?
5	B1	a) Facilitate productivity gains, with higher efficiency and better quality
6	B2	b) Promote the increase of the country's international penetration by fostering overall exports
7	B3	c) Develop further educational attainments of the workforce and promote sectors that employ proportionally more high-skill workers
	100.0	Improve future competitiveness
		3. Economic growth generates social impacts. What relevance do you attribute to the following aspects?
8	C1	a) Generate jobs in the country
9	C2	b) Generate job opportunities to workers more heavily affected by the COVID-19 pandemic
10	C3	c) Increase female participation in the labor market
11	C4	d) Increase opportunities to youngsters
	100.0	Reduce social inequality
		4. Morocco is a country that presents regional disparities. How important do you consider the following dimensions?
12	D1	a) Reduce Casablanca's share in national GDP
13	D2	b) Increase the share of lagging regions in national GDP
14	D3	c) Reduce overall regional inequality
	100.0	Reduce regional inequality
		5. Economic activity has different environmental implications. What relevance do you attribute to the following aspects?
15	E1	a) Reduce CO2 emissions
16	E2	b) Reduce water consumption by economic sectors
17	E3	c) Improve overall energy efficiency
	100.0	Improve environmental conditions

By way of illustration, the results of two policies focusing on specific dimensions are presented below. The first favors short-term economic growth and government tax revenue, relegating the other dimensions to a lower priority. The second offers a stronger perspective on regional cohesion and attaches greater importance to reducing regional concentration and regional inequality. In none of the cases are specific concerns attributed to the other dimensions, which is not to say

3. The model recognizes 20 sectors in the Moroccan economy. We have disregarded the oil-refining sector, since it became a residual sector after the shutdown of the SAMIR oil refinery in 2015.

that they do not have it, but simply that their implicit importance has already been included in calculating overall impacts.

3.1 Example 1: Focus on 'Economic Effects in the Present'

To represent the policy goals aimed at immediate growth, we assigned weight equal to 100 to the first dimension (A), namely, "*increase economic activity in the present, in sectors in which Morocco already stands out*". In the second layer, equal importance was attributed to the four indicators (A1, A2, A3, and A4) associated with that dimension.

Figure 2

Simulated Weight Structure – Short-term Growth Policy

		Survey
		To promote economic growth, government should implement policies that:
	100.0	Increase economic activity in the present, in sectors in which Morocco already stands out.
	0.0	Increase future competitiveness of the country through productivity-enhancing actions and innovation.
	0.0	Reduce social inequality. Generate more jobs and increase employment opportunities to youngsters and women in the labor market.
	0.0	Reduce regional inequality. Reduce concentration of output and employment in Casablanca and improve economic conditions of poorer regions.
	0.0	Improve environmental conditions, such as water availability, GHG emissions and energy efficiency.
	100.0	TOTAL
		1. The following alternatives reflect the effects of economic activities in the present. Which ones should the government prioritize?
1	25.0	a) Activities with a large share in GDP ("bigger sectors")
2	25.0	b) Activities that induce output in other activities in their production chain (high output multiplier)
3	25.0	c) Activities with a large share in government tax revenue ("great contributors")
4	25.0	d) Activities that boost tax revenue from other activities involved in the supply chain (tax revenue multiplier effects)
	100.0	Increase economic activity in the present
		2. To improve future competitiveness, which policies should the government implement?
5	0.0	a) Facilitate productivity gains, with higher efficiency and better quality
6	0.0	b) Promote the increase of the country's international penetration by fostering overall exports
7	0.0	c) Develop further educational attainments of the workforce and promote sectors that employ proportionally more high-skill workers
	0.0	Improve future competitiveness
		3. Economic growth generates social impacts. What relevance do you attribute to the following aspects?
8	0.0	a) Generate jobs in the country
9	0.0	b) Generate job opportunities to workers more heavily affected by the COVID-19 pandemic
10	0.0	c) Increase female participation in the labor market
11	0.0	d) Increase opportunities to youngsters
	0.0	Reduce social inequality
		4. Morocco is a country that presents regional disparities. How important do you consider the following dimensions?
12	0.0	a) Reduce Casablanca's share in national GDP
13	0.0	b) Increase the share of lagging regions in national GDP
14	0.0	c) Reduce overall regional inequality
	0.0	Reduce regional inequality
		5. Economic activity has different environmental implications. What relevance do you attribute to the following aspects?
15	0.0	a) Reduce CO2 emissions
16	0.0	b) Reduce water consumption by economic sectors
17	0.0	c) Improve overall energy efficiency
	0.0	Improve environmental conditions

Table 2 presents the list with the hierarchy of sectors with the most significant impacts on achievement of the objectives of this policy, for similar amounts of monetary stimulus. It also presents additional sectoral indicators, such as total employment, total GDP, and contributions to GDP and GRP[4]. Altogether, the top 15 represent 12.3% of national GDP, employing around one million people. The three sectors with the greatest impacts are (i) the food industry and tobacco in Grand Casablanca-Settat, (ii) transport in Marrakesh-Safi, and (iii) public administration in Drâa-Tafilalet.

4. Gross Regional Product.

Table 2

Sectoral Ranking (Top 15)

Ranking	Region	Sector	Score	Employment	GDP 2019 (DHS millions)	GDP (%)	GRP (%)
1	Grand Casablanca-Settat	Food industry and tobacco	65.7	104,284	37,252.9	3.7%	12.7%
2	Marrakech-Safi	Transport	53.9	59,006	3,457.1	0.3%	3.6%
3	Drâa-Tafilalet	Public administration	52.9	28,125	3,744.0	0.4%	13.8%
4	Drâa-Tafilalet	Financial activities and insurance	48.9	1,849	343.7	0.0%	1.3%
5	Marrakech-Safi	Public administration	48.0	60,017	7,876.8	0.8%	8.1%
6	Fès-Meknès	Transport	45.9	41,969	3,182.6	0.3%	3.3%
7	Grand Casablanca-Settat	Metallurgical and electrical industry	45.7	112,148	23,874.4	2.3%	8.2%
8	Guelmim-Oued Noun	Financial activities and insurance	44.9	613	127.8	0.0%	1.1%
9	Béni Mellal-Khénifra	Transport	44.8	23,707	1,619.5	0.2%	2.4%
10	Fès-Meknès	Public administration	43.4	64,412	10,377.6	1.0%	10.9%
11	Tanger-Tetouan-Al Hoceima	Public administration	39.6	63,468	9,320.9	0.9%	8.5%
12	Grand Casablanca-Settat	Textile and leather industry	37.0	301,284	8,447.3	0.8%	2.9%
13	Tanger-Tetouan-Al Hoceima	Transport	36.5	44,256	4,171.6	0.4%	3.8%
14	Grand Casablanca-Settat	Other manufacturing	36.4	64,560	5,680.9	0.6%	1.9%
15	Béni Mellal-Khénifra	Public administration	36.4	33,966	5,988.9	0.6%	8.8%

3.2 Example 2: Focus on 'Regional Impacts'

A policy focus on reducing regional disparities in Morocco is materialized by assigning, for example, a weight of 100 to the fourth dimension ("*reduce regional inequality/reduce concentration of output and employment in Casablanca/improve economic conditions of poorer regions*"), giving, in the second layer, equal importance to the three indicators (D1, D2, and D3). Table 3 shows the results of such a policy.

As can be seen, the ranking of sectors changes substantively, as would be expected. The three most impactful sectors, all of them located in Drâa-Tafilalet, would be (i) real estate, (ii) metallurgical and electrical industry, and (iii) education, health, and social action. The joint contribution to GDP by the top-15 sectors represents only 4.1% of the national total. Furthermore, they are all located in lagging regions outside the 'fish', the extended economic core of the country.

The three indicators related to this dimension are based on the structure of the economy's linkages and do not take into account the size of the sectors. It is noticeable that the second sector in the ranking has a negligible share of GDP and employment. As we will see in the following sections, combining the sectoral score with information on the magnitude of the sector may be a valuable strategy to define marginal budget allocations.

Figure 3

Simulated Weight Structure—Regional Policy

		Survey
		To promote economic growth, government should implement policies that:
	0.0	Increase economic activity in the present, in sectors in which Morocco already stands out.
	0.0	Increase future competitiveness of the country through productivity-enhancing actions and innovation.
	0.0	Reduce social inequality. Generate more jobs and increase employment opportunities to youngsters and women in the labor market.
	100.0	Reduce regional inequality. Reduce concentration of output and employment in Casablanca and improve economic conditions of poorer regions.
	0.0	Improve environmental conditions, such as water availability, GHG emissions and energy efficiency.
	100.0	TOTAL
		1. The following alternatives reflect the effects of economic activities in the present. Which ones should the government prioritize?
1	0.0	a) Activities with a large share in GDP ("bigger sectors")
2	0.0	b) Activities that induce output in other activities in their production chain (high output multiplier)
3	0.0	c) Activities with a large share in government tax revenue ("great contributors")
4	0.0	d) Activities that boost tax revenue from other activities involved in the supply chain (tax revenue multiplier effects)
	0.0	Increase economic activity in the present
		2. To improve future competitiveness, which policies should the government implement?
5	0.0	a) Facilitate productivity gains, with higher efficiency and better quality
6	0.0	b) Promote the increase of the country's international penetration by fostering overall exports
7	0.0	c) Develop further educational attainments of the workforce and promote sectors that employ proportionally more high-skill workers
	0.0	Improve future competitiveness
		3. Economic growth generates social impacts. What relevance do you attribute to the following aspects?
8	0.0	a) Generate jobs in the country
9	0.0	b) Generate job opportunities to workers more heavily affected by the COVID-19 pandemic
10	0.0	c) Increase female participation in the labor market
11	0.0	d) Increase opportunities to youngsters
	0.0	Reduce social inequality
		4. Morocco is a country that presents regional disparities. How important do you consider the following dimensions?
12	33.3	a) Reduce Casablanca's share in national GDP
13	33.3	b) Increase the share of lagging regions in national GDP
14	33.3	c) Reduce overall regional inequality
	100.0	Reduce regional inequality
		5. Economic activity has different environmental implications. What relevance do you attribute to the following aspects?
15	0.0	a) Reduce CO2 emissions
16	0.0	b) Reduce water consumption by economic sectors
17	0.0	c) Improve overall energy efficiency
	0.0	Improve environmental conditions

Table 3

Sectoral Ranking (Top 15)

Ranking	Region	Sector	Score	Employment	GDP 2019 (DHS millions)	GDP (%)	GRP (%)
1	Drâa-Tafilalet	Real estate	99.0	3,483	3,635.3	0.4%	13.4%
2	Drâa-Tafilalet	Metallurgical and electrical industry	98.0	2	1.6	0.0%	0.0%
3	Drâa-Tafilalet	Education, health and social action	97.9	31,401	4,805.8	0.5%	17.8%
4	Drâa-Tafilalet	Mining industry	97.7	2,340	1,118.3	0.1%	4.1%
5	Drâa-Tafilalet	Post and telecommunications	97.2	5,156	816.2	0.1%	3.0%
6	Drâa-Tafilalet	Transport	96.5	10,643	1,780.1	0.2%	6.6%
7	Oriental	Education, health and social action	94.1	31,854	5,985.5	0.6%	11.2%
8	Drâa-Tafilalet	Other non-financial services	93.8	30,502	627.8	0.1%	2.3%
9	Oriental	Fishing	93.1	3,527	181.7	0.0%	0.3%
10	Drâa-Tafilalet	Hotels and restaurants	92.8	6,745	803.4	0.1%	3.0%
11	Oriental	Public administration	92.4	28,531	7,917.3	0.8%	14.8%
12	Oriental	Real estate	92.0	7,310	6,356.7	0.6%	11.9%
13	Oriental	Electricity and water	91.3	2,065	2,325.8	0.2%	4.3%
14	Oriental	Post and telecommunications	91.2	12,013	1,613.7	0.2%	3.0%
15	Oriental	Transport	90.8	24,798	3,519.5	0.3%	6.6%

4. CONSOLIDATED ANALYSIS

The aggregate regional-sectoral scores $(SCORE_i^r)$ can be further aggregated across regions or sectors, using appropriate weights. Thus, each national sector and each region received an aggregate score, $SCORE_i^{\cdot}$ and $SCORE^{r}$, respectively.

To illustrate how the five dimensions are affected by the variation in the quantitative importance of each sector (or region), five simulations were produced in which all relevance is attributed to each one of them, one by one, canceling out the importance of the others. These are extreme cases, as seen in the two examples above, which serve to illustrate how the attribution of relative importance to the consequences produced by each sector (or region) is relevant. For this purpose, equal weights were assigned to the indicators within each dimension, similar to the discussion in Sections 3.1 and 3.2.

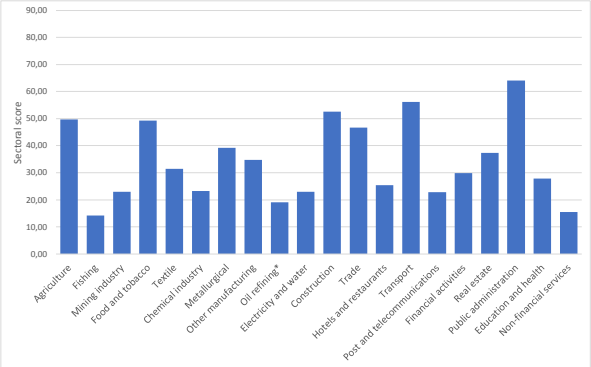
Considering, therefore, the five extreme weighting structures, Figure 4 presents the weighted average score for each sector, taking into account its potential contribution, in relative terms, for each dimension. Similarly, the maps shown in Figure 5 present the regional rankings for each dimension considered in this study.

There are apparent trade-offs when analyzing the results for the calculated rankings. In Figure 6, we crossed the weighted average scores assigned to each of the Moroccan regions with the respective values of regional GDP (GRP). One can see, for instance, a positive correlation between economic effects in the present, and more pressure on the use of natural resources, reinforced by greater negative impacts on social and regional inequalities.

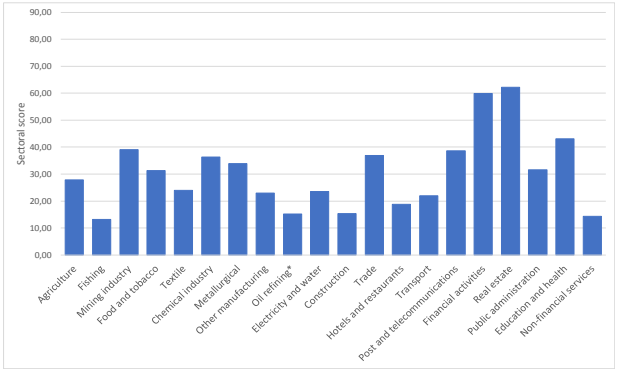
Figure 4

Sectoral Ranking for Each Dimension

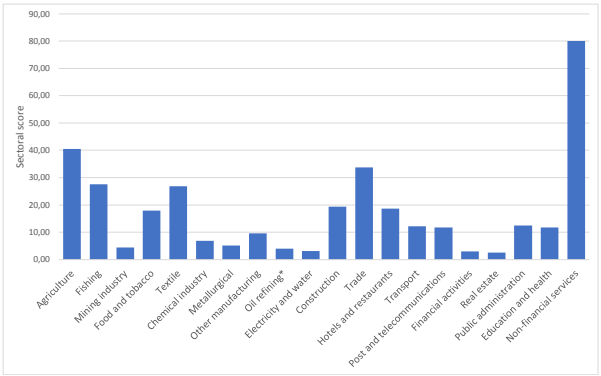
Economic effects in the present



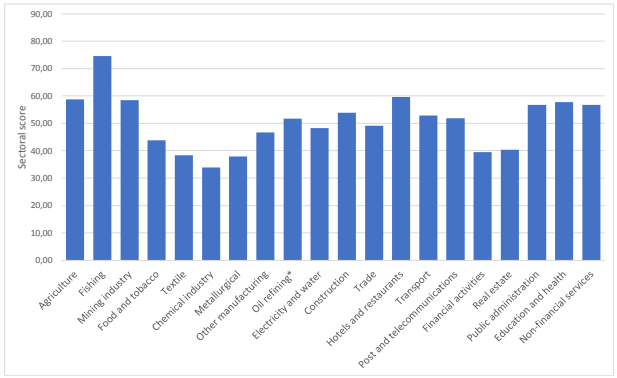
Economic effects in the future



Reduce social inequality



Reduce regional disparities



Reduce pressure on the use of natural resources

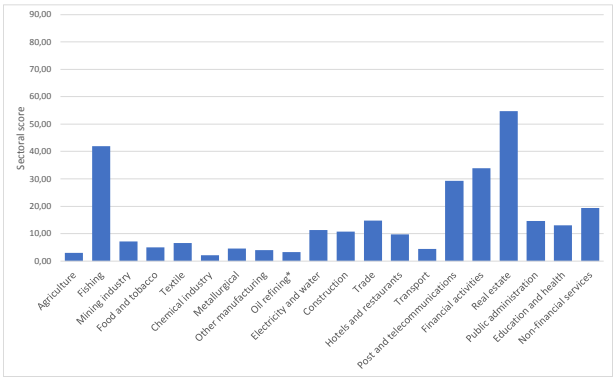
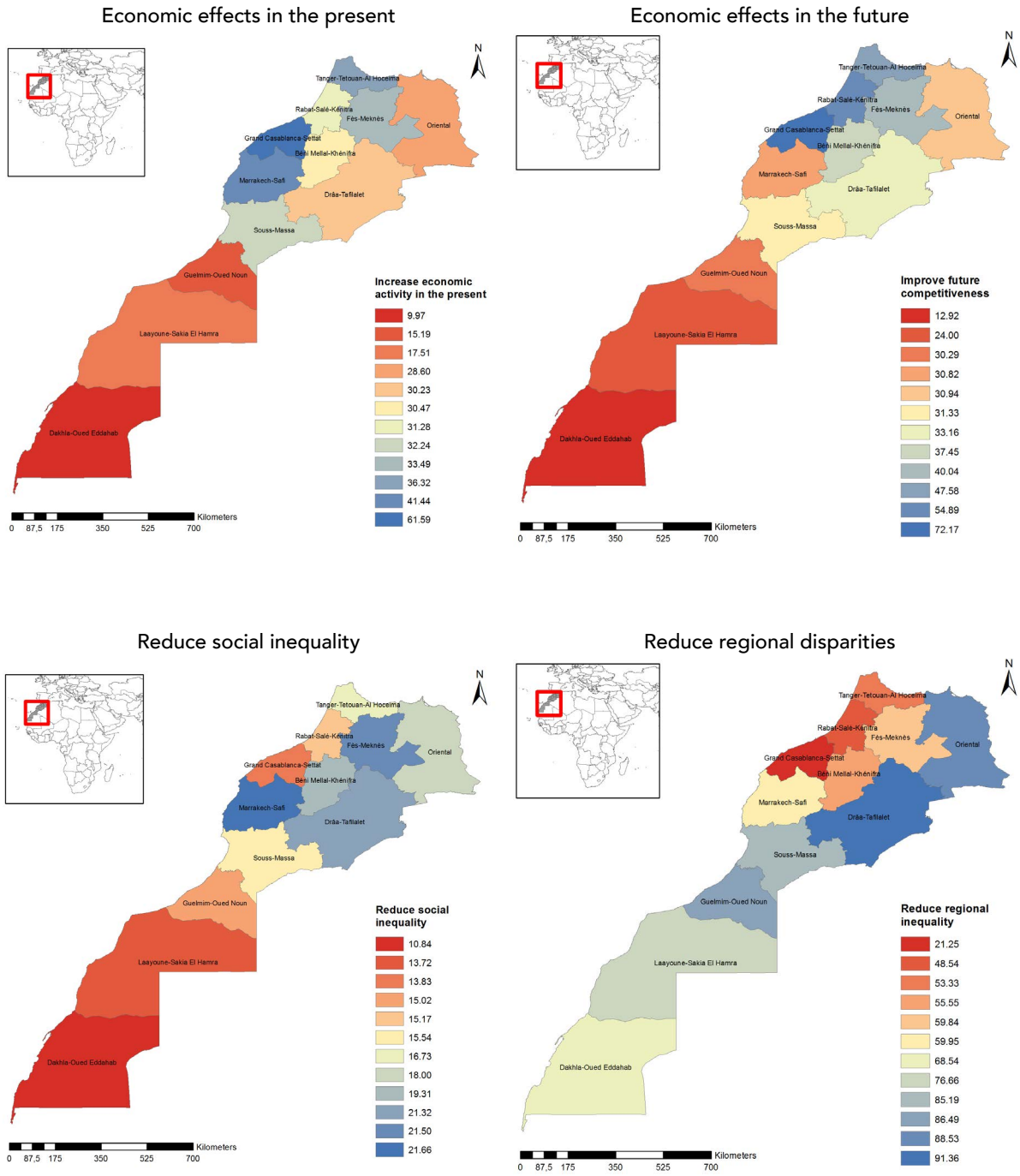


Figure 5

Regional Ranking for Each Dimension



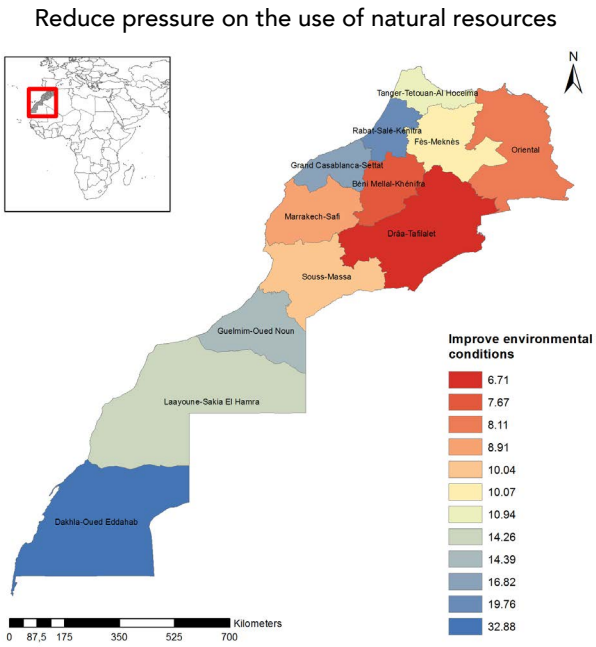
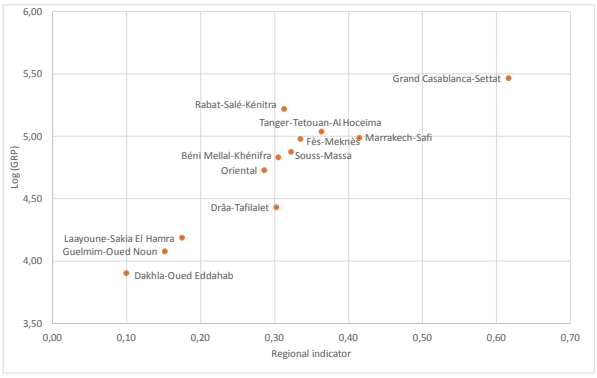

Reduce pressure on the use of natural resources
N
Tanger-Tetouan-Al Hoceima
Rabat-Salé-Kénitra
Fès-Meknès
Oriental
Grand Casablanca-Settat
Béni Mellal-Khénifra
Marrakech-Safi
Drâa-Tafilalet
Souss-Massa
Guelmim-Oued Noun
Laayoune-Sakia El Hamra
Dakhla-Oued Eddahab
Improve environmental conditions
6.71
7.67
8.11
8.91
10.04
10.07
10.94
14.26
14.39
16.82
19.76
32.88
Kilometers
0 87,5 175 350 525 700

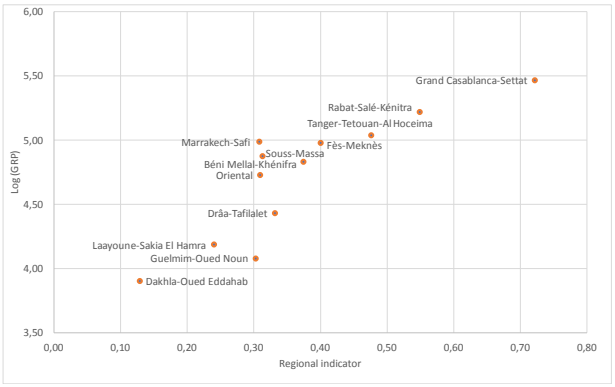
Figure 6

Correlation Between Sustainable Development Dimensions and GRP

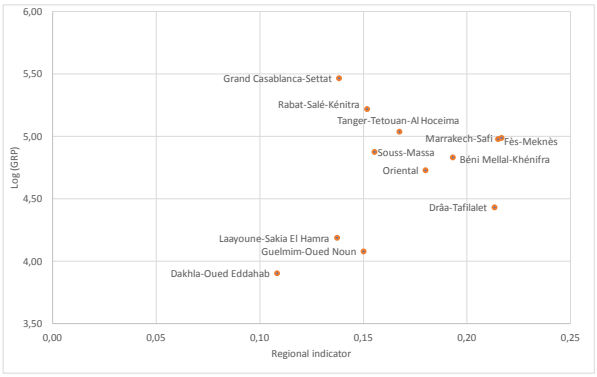
Economic effects in the present



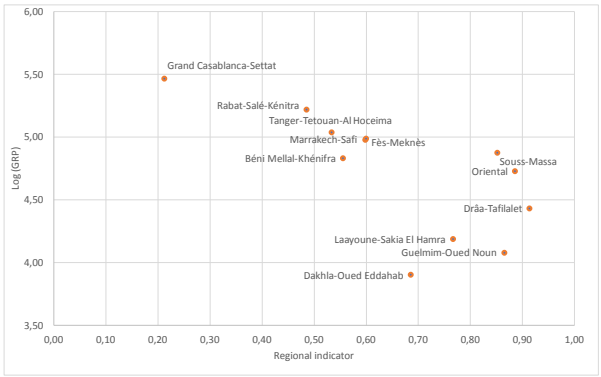
Economic effects in the future



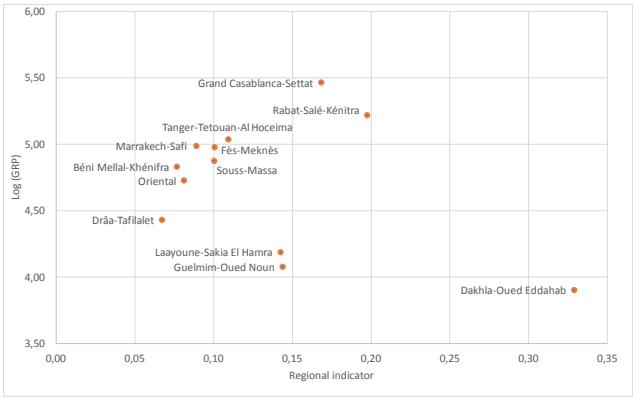
Reduce social inequality



Reduce regional disparities



Reduce pressure on the use of natural resources



4.1 Sectoral Synthesis

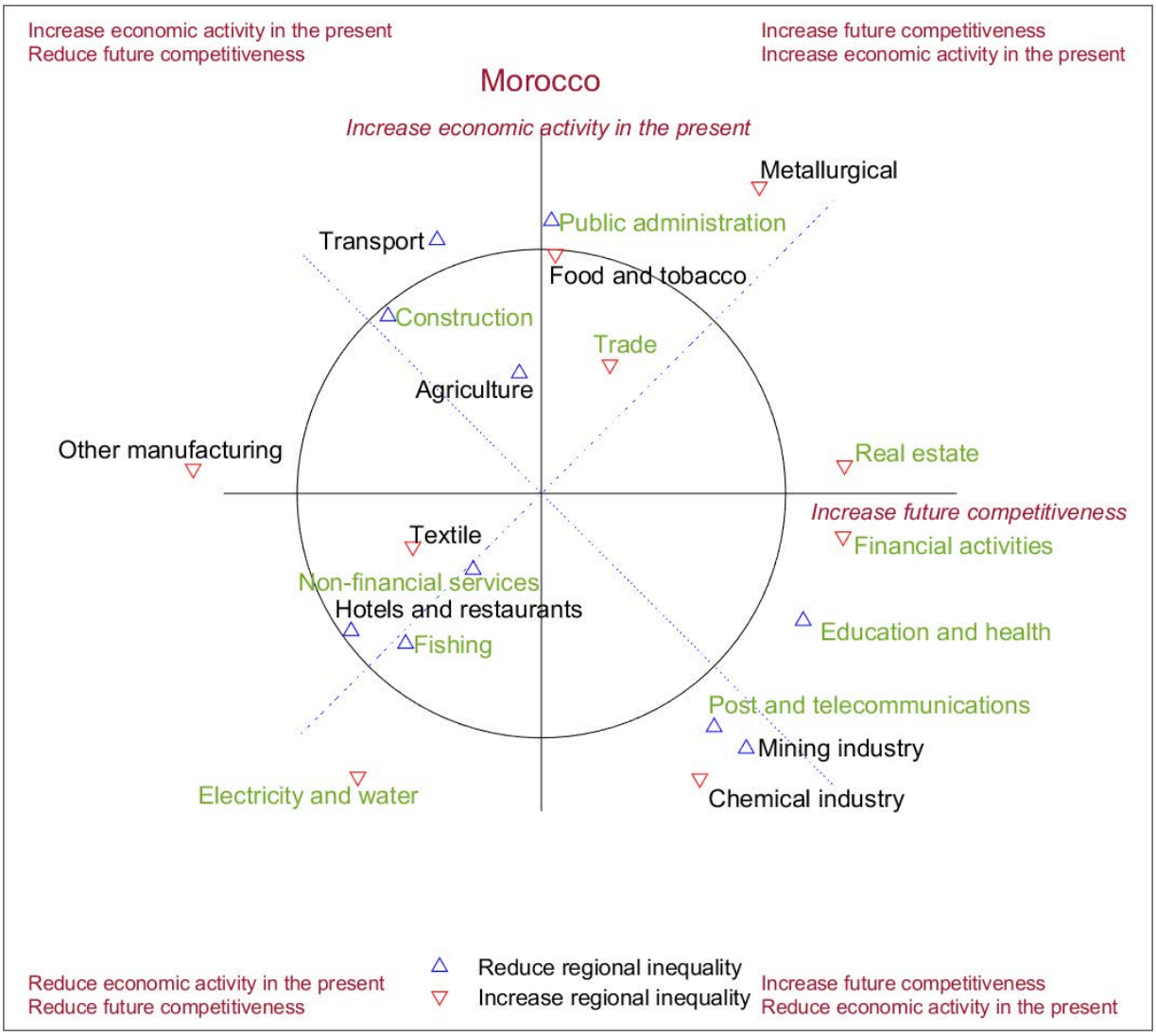
Figure 7 plots all sectors covered by the analysis in a two-dimensional graph, with the ability to increase the country's future competitiveness on the horizontal axis and the ability to increase production in the present on the vertical axis. The set of sectors in the first and fourth quadrants are able to contribute to the growth of competitiveness in the future, though the sectors of the first quadrant simultaneously contribute to increased growth in the present, while those in the fourth quadrant do not.

The figure also shows the other three dimensions highlighted above. The sectors positioned inside the circle have better initial conditions for the reduction of social inequalities in Morocco, while the sectors positioned outside the circle have a lower relative potential to contribute to the reduction of social inequalities. The arrows next to the name of each sector arrows represent the pressure that the sector exerts on regional inequalities: a blue arrow pointing upwards indicates greater potential for reducing interregional inequalities, while a red arrow pointing downwards indicates less potential. Names highlighted in green are associated with sectors that exert less pressure on the use of natural resources, while those in black exert greater pressure.

This analysis offers a detailed picture of the complexity of the interrelationships present in the Moroccan economy in a systemic context, identifying how each sector makes a distinct contribution in terms of the five dimensions analyzed. This knowledge, based on scientific models, exposes the map of the effects of increasing or decreasing production in each sector. Knowing the effects is an important step for decision-making, but this additionally depends on the attribution by society of importance to the dimensions involved.

Figure 7

Multidimensional Effects of Increases in Sectoral Output



Note: Sectors inside the circle (and closer to the central axis [0,0]) potentially contribute more to reducing social inequalities in Morocco. Sectors in green have a greater potential to reduce pressure on natural resources.

Based on the information contained in Figure 7, the sectors were classified according to the type of intervention suitable for each case.

4.1.1 Strategic Sectors

The sectors in the first quadrant (positive effects in the present and in the future) could be considered strategic for the development of the country. Among them, those sectors located inside the circle (in green with the blue arrows pointing upwards) should be the priority sectors, as they would provide present and future economic benefits, would contribute to the reduction of social and regional inequality, and put relatively little pressure on natural resources (no sector shares all these characteristics). Sectors outside the circle, in black (i.e. metallurgical), require attention in the

form of environmental and social policies, so that their negative effects on the environment and inequality are reduced in the future.

4.1.2 Sectors of the Future

The fourth quadrant includes sectors with smaller quantitative effects in the present but with greater potential to improve the productivity of the national economy in the future. If the sectors in the first quadrant are strategic, these are sectors of the 'future'. It should be noted that a large part belongs to the tertiary sector, with little pressure on the environment, and good opportunities to reduce regional inequalities—except for the financial services sector, which tends to increase regional inequality because of its strong sensitivity to agglomeration economies. Neither though have a positive impact on the reduction of social inequality. There are also sectors linked, directly and indirectly, to the exploitation of the country's abundant natural resources (mining and chemical), which require, however, environmental care.

4.1.3 Strategic Sectors and Sectors of the Future—Policy Implications

The strategic sectors in the first quadrant and the sectors of the future in the fourth quadrant can be targeted by bolder policies, given their current and future potential contributions to the Moroccan economy. Special sectoral programs in the technological realm, and participatory economic support (public and private agents), could be designed with a view to overcoming specific bottlenecks. Sectoral chambers could be reinforced to identify such bottlenecks, and design creative and effective solutions involving the innovation ecosystem available in the country (e.g. universities, think tanks, etc.). Among these sectors, those that exert greater pressure on the environment deserve special attention, whether in terms of science and technology, or in the context of the creation of economic instruments to resolve environmental bottlenecks in a modern and efficient way.

4.1.4 Sectors of the Present, with Problems—Support Policies

The second quadrant contains sectors that contribute to the economy in the present but offer relatively little advantage for future competitiveness, given the currently adopted technologies. It can be seen, however, that two of them have a favorable potential in social terms (i.e. agriculture and construction).

These are large, quantitatively important sectors that cannot be ignored. As in the strategic sectors and the sectors of the future, a thorough diagnosis of their problems must be sought through sectoral chambers, involving the technological and environmental intelligentsia of the country. Mitigating environmental problems with the introduction of modern incentives and control instruments is fundamental, as is identifying technological bottlenecks and designing specific support programs for sectors with greater potential in the desired dimensions. In strategic instances for some regional economies, bolder programs can be designed.

4.1.5 Sectors of the Past—Redemption Policies

The third quadrant includes the most problematic sectors, which contribute little in the present and have limited potential to improve the future of the national economy. It should be noted that some do not exert great pressure on the environment, and a considerable part contributes to the improvement of social conditions. These are sectors from the past, but which are still important for the Moroccan economy, mainly because of their inclusive potential.

This case is about redemption policies. From an environmental point of view, an obvious problem in some of the sectors involved, the same applies as in the other sectors, with no reason for different treatment. Specific groups of sectoral studies, sectoral chambers, and articulation between planning instances in the country and private stakeholders, need to identify critical cases that provide opportunities for successful rescues.

4.2 Regional Synthesis

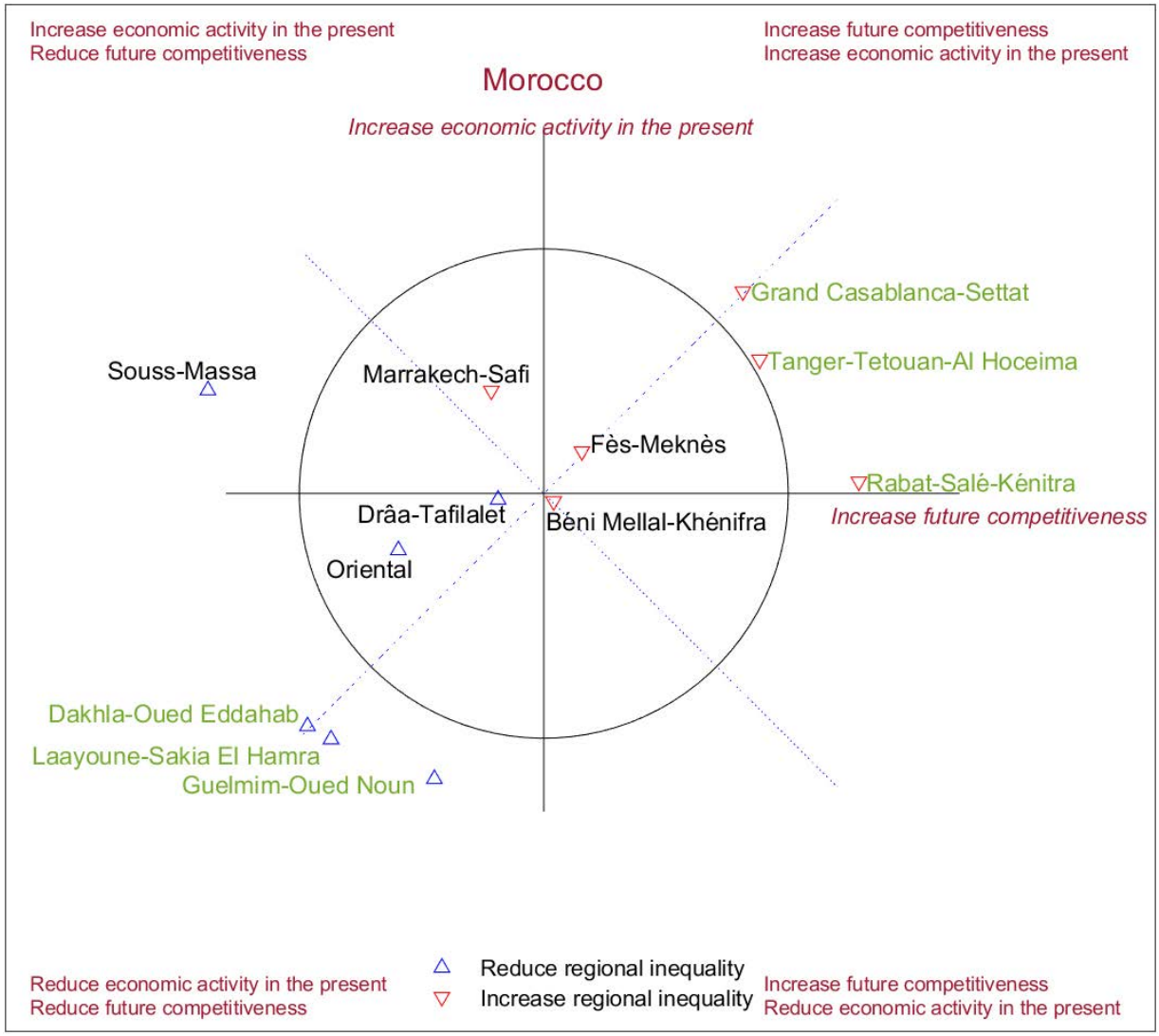
Analogously to Figure 7, Figure 8 simultaneously presents the potential contribution of each Moroccan region for each of the dimensions of the study. In this case, their respective productive structures are taken into account to simulate the aggregated scores weighted by specific dimensions (Figure 5). The *locus* of each region on the graph provides a relative perspective on its multidimensional importance in Morocco.

There is a clear trade-off between efficiency and regional equity. Regions that produce higher impacts in terms of economic growth, located to the right of the blue dotted line defining the northeast hemisphere, also contribute more to regional concentration. On the opposite hemisphere, we find regions promoting regional equity with a relatively lower impact on economic activity. In the first group (pro-growth), regions that contain large urban agglomerations (i.e. Grand Casablanca, Tanger, and Rabat) put relatively less pressure on the use of the country's natural resources and do not favor the reduction of social inequality. The other three regions of the group (Marrakech-Safi, Fès-Meknès, and Beni Mellal-Khénifra) are also in a position in which their respective economic structures help to promote social equity, despite putting more pressure on the environment.

In the second group (pro-regional-equity), Souss-Massa stands out as a region with the potential to respond favorably to economic stimuli in the short run, though putting pressure on the use of natural resources and with social issues to be addressed. Drâa-Tafilalet and Oriental, despite not performing well in the growth-responsiveness indicators and being environmentally less friendly, show potential in terms of reducing social inequality. Finally, the three southernmost regions present issues related to social inclusion, but are not as harmful in terms of pressure on natural resources.

Figure 8

Multidimensional Effects of Increases in Regional Output



Note: Regions inside the circle (and closer to the central axis [0,0]) potentially contribute more to reducing social inequalities in Morocco. Regions in green have greater potential to contribute to reducing the pressure on natural resources.

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Miller, R. E.; Blair, P. D. (2009). *Input-Output Analysis*: Foundations and Extensions. Prentice-Hall.

Table A1

Regional Classification

	Regions
R1	Tanger-Tetouan-Al Hoceima
R2	Oriental
R3	Fès-Meknès
R4	Rabat-Salé-Kénitra
R5	Béni Mellal-Khénifra
R6	Grand Casablanca-Settat
R7	Marrakech-Safi
R8	Drâa-Tafilalet
R9	Souss-Massa
R10	Guelmim-Oued Noun
R11	Laayoune-Sakia El Hamra
R12	Dakhla-Oued Eddahab

Table A2

Industry Classification

	Sectors
A00	Agriculture, forêt et services annexes
B05	Pêche, aquaculture
C00	Industrie d'extraction
D01	Industries alimentaires et tabac
D02	Industries du textile et du cuir
D03	Industrie chimique et parachimique
D04	Industrie mécanique, métallurgique et électrique
D05	Autres industries manufac. hors raffinage pétrole
D06	Raffinage de pétrole et autres produits d'énergie
E00	Electricité et eau
F45	Bâtiment et travaux publics
G00	Commerce
H55	Hôtels et restaurants
I01	Transports
I02	Postes et télécommunications
J00	Activités financières et assurances
K00	Immobilier, location et serv. rendus entreprises
L75	Administration publique et sécurité sociale
MNO	Education, santé et action sociale
OP0	Autres services non financiers

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