

Fall in hydrocarbon and cement prices in Niger: What impact on employment and the well-being of men and women?

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ABSTRACT

The economic and social reforms initiated in 2023 by the political authorities aim to support the resilience of populations but may also have repercussions on gender inequalities, which remain high in Niger. This study uses a computable general equilibrium model to assess the distributional impacts between men and women of the petroleum products reform and the cement reform under various budget balance financing assumptions. The results highlight an improvement in household income and an increase in their purchasing power, but the pressure on public finances, persistent social disparities, and the risks of dependence on subsidies reveal the need for strategic adjustment.

Keywords: Trade reforms - Gender - economic growth – CGE modeling

RESUME

L'évaluation réalisée dans le cadre de cette étude met en évidence des impacts positifs tant au niveau microéconomique que macroéconomique. L'amélioration des revenus des ménages, la hausse du pouvoir d'achat et la perception globale du bien-être social sont des résultats encourageants. Cependant, les limites identifiées, telles que la pression sur les finances publiques, les disparités sociales persistantes et les risques de dépendance aux subventions, révèlent la nécessité d'un ajustement stratégique. Les résultats mettent en évidence une amélioration des revenus des ménages et une hausse de leur pouvoir d'achat mais la pression sur les finances publiques, la persistance des disparités sociales et les risques de dépendance aux subventions révèlent la nécessité d'un ajustement stratégique.

Mots clés : Réformes économiques – Genre – Croissance économique - MEGC

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1. Introduction

Faced with the multiple challenges facing Niger, economic reforms are positioned as strategic levers to mitigate inequalities, improve the well-being of populations, and strengthen economic resilience. With a poverty rate affecting 41.8% of the population in 2021 and marked socioeconomic inequalities between rural and urban areas, as well as between women and men, the country must address pressing social needs while navigating an unstable global economic and geopolitical context.

Nigerien women represent more than half of the population and participate in the economy as producers, processors, and consumers. They operate in the current context where the Nigerien economy is experiencing a crisis caused by the political context following the coup d'état of July 26, 2023, and the accompanying restrictive measures (closure of the border with Benin, regional insecurity). The economic stabilization expected from 2024 will materialize under the assumption of moderate growth at 5.7%, resulting from optimal management of mining and extractive resources and the implementation of appropriate public policies guaranteeing a fair redistribution of economic gains. However, following the sanctions imposed on Niger and the closure of the borders of certain ECOWAS countries, a surge in product prices has gradually taken hold on the markets, significantly impacting the purchasing power of the majority of the Nigerien population.

Aware of this situation, the Nigerien public authorities have initiated economic reforms to improve the well-being of the population and support their resilience in a spirit of economic sovereignty. These reforms are tools that a state can use to maintain economic stability or revive activity, often at the cost of a temporary deterioration in the public balance.

By capping hydrocarbon and cement prices, the Government aims to reduce the cost of living for households, support their purchasing power, and stimulate domestic consumption. Hydrocarbon subsidies represent an average of 3% of GDP, reflecting a significant commitment to contain the effects of rising prices on households. Furthermore, capping the price of cement at 55,000 CFA francs per ton in Niamey aims to revive the construction sector, which contributes 4% to GDP. These measures are in line with the Resilience Program for the Safeguarding of the Homeland (PRSP), which aims to establish a new vision for the country's endogenous development by proposing relevant actions to overcome the effects of sanctions imposed on economic activity and the social and security situation, restore good governance, and strengthen social cohesion.¹

Given the implications of these social measures on public resources, it is essential to question their sustainability and their real impact on economic development and the well-being of populations, particularly women.

However, these initiatives, although recent, do not represent a complete break with the historical dynamics of social policies implemented in Niger. Indeed, these efforts, although important, remain constrained by persistent challenges. As a result, the effectiveness and sustainability of these interventions are the subject of debate. While some authors see them as an essential short-

¹ Resilience Program for the Safeguarding of the Homeland (PRSP)

term response to protect the most vulnerable (Olivier and Ridde 2012, Bortoli and Milin 2016, Djinadou 2024), others highlight the risks related to fiscal sustainability and the potential impact on macroeconomic balances (Hickey and Toit 2007, Refafa and Laktar 2017, Mkenda and Mbise 2017). These questions call for rigorous analysis to better understand the impact of these policies, whether their effect on macroeconomic variables such as production and prices, or their direct impact on households and other economic agents.

This research aims to provide answers on the economic reforms that have the greatest impact on job creation and women's economic development. Specifically, it aims to highlight the transmission channels of these measures in order to identify their advantages and disadvantages. The added value of the study is twofold: it informs policies on the measures with the greatest impact and contributes to economic and empirical reflection on the topic.

2. Characteristics of the oil and cement markets

2.1. The oil market in Niger

Niger's oil potential is based on two large sedimentary basins covering more than 90% of the national territory: the western basin (Ullémenden , Tamesna) and the eastern basin (Grabens system, Djado). The country's oil chain includes a Zinder Refining Company (SORAZ) which has been producing around 110,000 barrels per day since 2024, a Nigerien Petroleum Company (SONIDEP) ²which recovers 20,000 barrels for distribution on the domestic market as a priority, then the AES states, Togo and Chad and since January 2024 the West African Oil Pipeline Company SA (Niger & Benin) WAPCO involved in the export of crude oil via the Niger-Benin pipeline , 1,950 km long, linking the Agadem block , in the east of Niger, to the Beninese coast of Sèmé.

Prices are set through consultation between the Ministry of Trade, the Ministry of Petroleum, SONIDEP, SORAZ, ARSE, CNPC and stakeholders through an equalization mechanism, resulting in a higher consumer price than the export price, taking into account transport costs. The consumer price of hydrocarbons increased from 579 FCFA for gasoline and 577 FCFA for diesel on January 1, 2012, to 540 FCFA for gasoline and 538 FCFA for diesel on January 1, 2013, and then remained stable until August 2022, when the price of diesel was raised to 668 FCFA. In 2024, as the country faces economic and financial pressures, a new fuel subsidy reform comes into effect in August, setting the price of diesel at 618 CFA francs and gasoline at 499 CFA francs to help consumers cope with the surge in the cost of basic necessities.

Since oil is an essential source of energy for economic activities, including transport and industry (Philippe Duchemin, 1957), a reduction in its price will help reduce transport costs, improve access to energy and reduce the costs of production factors for goods and services. This could also result in a decrease in the prices of goods and services, thus strengthening the purchasing power of households (Anizon et al, 1986).

²The oil is transported via a 462.5 km pipeline that connects the oil fields to the refinery. The company produces diesel and premium oil for the domestic market, and exports the surplus .

2.2. The cement market

In Niger , the two combined cement plants, MCC and CBM, offer a total production capacity of 1,720,000 tonnes per year, which is an excess capacity compared to local market demand, estimated at 1,200,000 tonnes per year. Local cement sales are estimated in 2022 at 584,000 tonnes, representing a value of 40.147 billion CFA francs .

Table 1: Production capacity of the two cement plants.

No.	Factories	Installed capacity t/year	Type of factory	Manufacturing process	Cooking fuel	Benefits
1	Malbaza Cement Company (MCC) ³	720,000	Integrated factory	Dry route	Coal	Tax exemptions and customs benefits (4.65 billion)
2	China Building Material (CBM)	1,000,000	Integrated factory	Dry route	Coal	Tax exemption and customs benefits

Source : Final report of the UEMOA cement study, 2023.

Malbaza Company, 2023

Cement pricing policy in Niger is liberal, with prices approved by the Ministry of Trade. It is determined by demand, fluctuations in raw material prices, and transportation costs. In terms of trends, cement prices declined between 2015 and 2019, linked to an increase in domestic supply, followed by a price increase in 2020, marked by disruptions in supply chains.

Joint decree 0105/MCI/ME/F of 16 October 2024 established a price ceiling varying between 51,000 and 59,000 CFA francs depending on the region, ⁴a reduction of approximately 35%. In return, companies regularly established in Niger and carrying out the activities of importing, producing and marketing CEM II 32.5 grey cement benefit from several exemptions ⁵for a renewable period of one year.

Cement is an essential material for the construction of housing and infrastructure such as roads and buildings (Djinadou, 2024). A reduction in its price makes construction projects more viable, by encouraging investment and making housing more accessible in the face of growing demand. In addition, this reduction allows governments to launch more infrastructure projects, which stimulates growth and creates employment by increasing the demand for labor.

3. Literature review

In the literature, very little research has looked at the impact of a change in the price of cement. Analyses are more oriented towards the impact of changes in the price of hydrocarbons on the construction sector or infrastructure. It is with this in mind that Refafa . B and Adouka Laktar (2017) showed that the decline in oil prices had recessive effects on the Algerian economy such

³ Heir to the Niger Cement Company, it produces clinker and gray Portland cement in the form of CPJ 35 or CPJ 45.

⁴55,000 FCFA in Niamey, 54,000 FCFA in Dosso; 49,000 FCFA in Tahoua; 55,000 F CFA in Maradi; 57,000 F CFA in Zinder; 59,000 F CFA in Diffa and Agadez, 5700 FCFA in Tillabéri.

⁵This involves total exemption from the tax on financial activities (TAFI) on accrued interest not yet due on loans, from value added tax (VAT), real estate tax for legal entities (TIPM) and professional tax (TP), exemption from customs duties and taxes on coal intended for the production of CEM II 32.5 grey cement and from value added tax (VAT) on the sale and transport within the country of CEM II 32.5 grey cement intended for households.

as the fall in foreign exchange inflows, the fall in oil revenue, the decrease in public spending and the slowdown in investments. The results of Oussama (2023) show that the reduction in hydrocarbon prices can stimulate investment, promote innovation and strengthen the competitiveness of economies. The decline in hydrocarbon prices also has repercussions on the well-being of the populations (Clément Bortoli and Kevin Milin (2016), World Bank (2013)).

Using a computable general equilibrium model, André Lemelin and Véronique Robichaud (2016) showed that falling oil prices have a positive effect on the Quebec economy. Furthermore, Guy Kenkoua Albert (2014), analyzing the inflationary effects of fluctuations in international oil prices in the countries of the Economic and Monetary Community of Central Africa (CEMAC) between January 1994 and December 2013, showed that the establishment of hydrocarbon price stabilization funds helped stabilize oil prices at the pump in some CEMAC countries. The author shows that fluctuations in world oil prices would have no significant impact on inflation in CEMAC countries in the short term. However, in the long run, a 10% increase in global oil prices would cause a long-term increase in inflation of 1.5 to 4 percentage points, depending on the country.

Kangni Kpodar (2006), studying the effects of an increase in petroleum product prices on income distribution in Mali, found that among the petroleum products consumed by households, the increase in the price of kerosene negatively affects the income of poor households more than the increase in the price of gasoline and diesel. Overall, the impact of the increase in the price of petroleum products follows an inverted U-shaped relationship with the level of per capita expenditure, with middle-class households being less affected than poor and rich households.

Furthermore, regardless of the petroleum product considered, subsidized pump prices benefit high-income households more than low-income households. This result demonstrates the limitations of implicit or explicit subsidies to domestic petroleum product prices, compared to targeted subsidies to protect poor households. The authors suggest reforming the domestic pricing system to redirect budgetary resource allocation toward poverty reduction objectives.

4. Methodology

4.1. The data

4.1.1. The social accounting matrix

The social accounting matrix (SAM) used in this article was constructed using data from the 2018 TCEI and TRE collected from the National Institute of Statistics. The 2018 Harmonized Survey on Household Living Conditions (EHCVM) database made it possible to disaggregate household accounts and take gender into account.

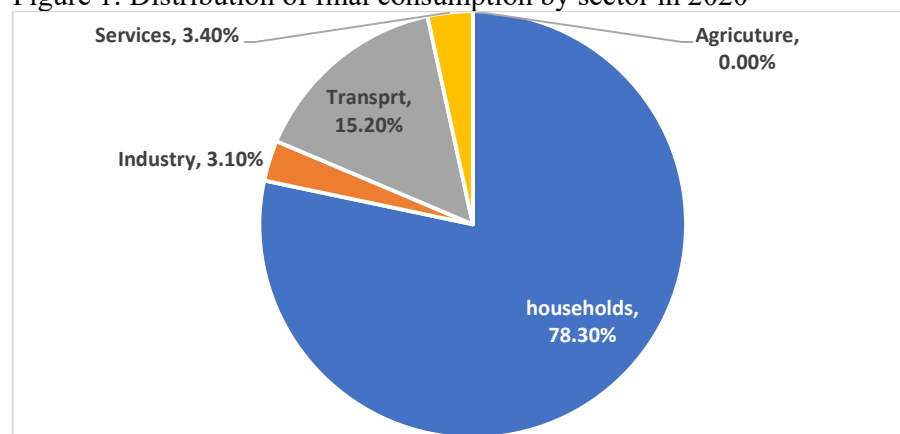
The value added coefficients reflect the characteristics of the Nigerien economy, where the primary sector is dominant, while the secondary sector is the weak link. Agriculture constitutes a significant share (29.4%) of the gross domestic product and represents approximately two-thirds of total exports. The services sector generates approximately 42.6% of total value added. The wholesale trade sector constitutes the largest contributor to the total value added of the economy (11.8%). The extractive sector contributes 7% to the value added and also represents 21.3% of exports, while the industrial sector records a small weight of 11.4%. The largest share

of Nigerien imports concerns food and refinery products, whose import/production ratios are 53% and 71.2%, respectively.

4.1.2. Place and importance of oil and cement in the Nigerien economy

The impact of oil and cement reforms on households depends on their propensity to consume these products. Indeed, the anticipated decline in consumer prices is beneficial for purchasing power and, consequently, household consumption.

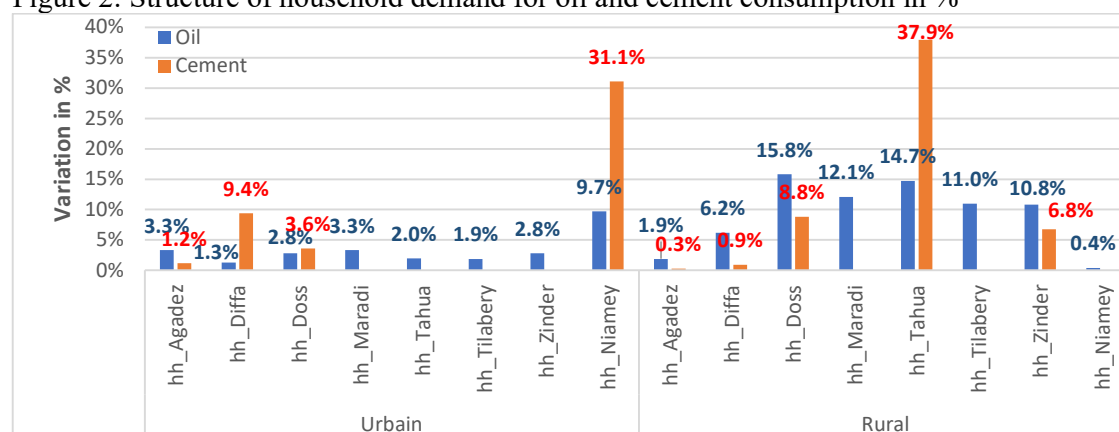
Figure 1: Distribution of final consumption by sector in 2020



Source: ITIE Report 2020

An analysis of the structure of household consumption in Niger reveals that refined petroleum and cement are mainly consumed in rural areas (73% of refined products and 55% of cement). In urban areas, the demand for cement consumption comes mainly from Niamey, the capital, and in rural areas, mainly from Tahoua, followed by Dosso and Zinder.

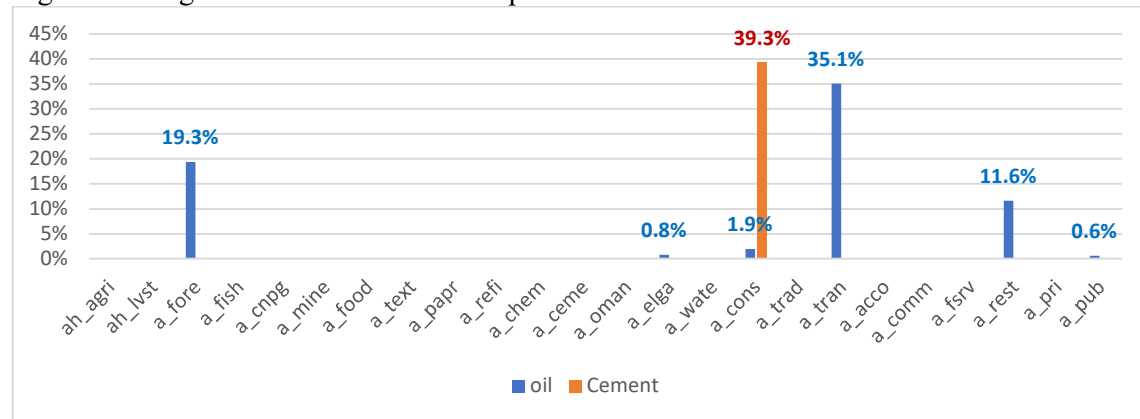
Figure 2: Structure of household demand for oil and cement consumption in %



Source: Authors

Compared to total household expenditures, oil represents on average only 2.2% and 3.3% of the consumption budget in urban and rural areas, respectively. Cement weighs much less on household budgets, representing on average 0.1%. If the price of refined oil decreases, rural households would potentially benefit the most. They could have more flexibility to cover their agricultural needs.

Figure 3: Weight of intermediate consumption of oil and cement in %



Source: Authors

In addition, petroleum products also occupy a strategic place in the production of sectors of activity. Indeed, they are used for the production of several sectors namely transport (35.1% of total intermediate consumption), forestry (19.3%), real estate (12%) and to a lesser extent construction, electricity and the public sector. As a result, a fall in the prices of petroleum products could lead to a fall in the production costs of companies. This situation could prove harmful if the reduction in the State investment budget induced by the reform had negative effects on the productivity of the economy. As for cement, it interacts weakly with other sectors so that the expected effects will mainly result from a change in the structure of consumption in favor of this good.

4.2. The model

4.2.1. Description of the EGC model

The DEMETRA model used in this research is a recursive-dynamic general equilibrium (GCE) model with an open economy, applicable to a single country. It allows an advanced characterization of impacts at different levels: sectoral (production and production costs), household (income and consumer demand), regional (household membership and migration between different regions) and aggregate (GDP, employment, trade).

Key features of the DEMETRA model include:

- A hypothesis of perfect competition, that is, prices and quantities are not subject to any market power, either on the supply side or the demand side.
- A disaggregation of economic activities into individual processes, captured by nested constant elasticity of substitution functions, combining factors of production and intermediate goods.
- A separation of commercial and subsistence goods, with consistent accounting of domestic production for domestic consumption, which allows the study of semi-subsistence production and consumption processes.
- Trade specified under the Armington hypothesis, which treats imported and domestic varieties of the same good as imperfect substitutes.
- A disaggregation of the labor factor according to gender, residence, level of education and region.
- A small country hypothesis that cannot influence world prices. Export demand is therefore constrained by export supply with a finite elasticity that reflects the level of competitiveness of local producers on the international market.

- A fully mobile workforce between sectors, evolving at the rate of population growth and a sector-specific capital whose stock is dependent on the previous stock less the depreciation of the available capital stock and new investments made in the sector.

The model simulations are carried out according to the following closing rules:

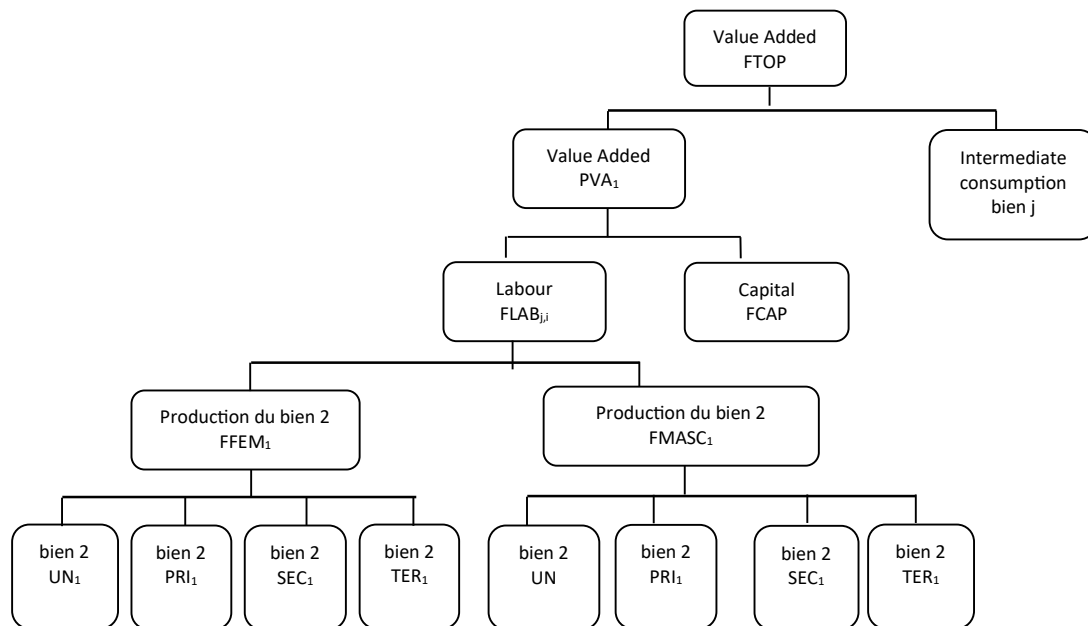
- Savings-led investment, where investment adjusts according to the fixed saving propensities of households and firms
- Semi-flexible public consumption, where education and health expenditures are fixed, while public administration expenditures vary according to changes in government revenues
- Fixed foreign savings and variable exchange rate
- Producer Price Index (PPI) used as the numeraire of the model (reference price for all other price changes); the Consumer Price Index (CPI) therefore moves in relation to the PPI.
- Mobility of labor and land between regional and national activities; non-mobile capital, the allocation of investments of which is based on sectoral rates of return.

4.2.2. Labor market specifications

To capture gender-differentiated impacts, the labor market is first disaggregated by residential area, region, gender, and education level. The latter determines the quality of employment in the labor market, with households with at most primary education being more prone to precarious employment in the informal sector. We assume perfect substitutability, meaning that firms make no distinction between male and female labor.

The four segments of the labor market are represented in the graph below. There is imperfect competition in each submarket with the emergence of excess supply (unemployment). The relationship between wage and unemployment rates in each market is given by the wage curve . curve ”).

Figure 4: Structure of labor market specification



Source: Author

$$LD_i = A_i * \left[\alpha_i * LD_i^{f(-\rho_i)} + (1 - \alpha_i) * LD_i^{m(-\rho_i)} \right]^{-\left(\frac{1}{\rho_i}\right)}$$

Where A is the scale parameter, ρ the elasticity parameter, α the distributive share of female labor, and the subscripts m and f represent men and women respectively. From this specification, the relative demands for market labor of men and women are deduced, which depend on the distributive share of male and female labor, the relative wage rate of men and women and the elasticity of substitution between male and female labor (σ).

Women receive only 32% of wages paid by the sectors (40% and 26% respectively in urban and rural areas). Unskilled women (with at most a primary level of education) capture nearly 60% of total income, compared to 82% for men. In terms of skilled work, their representation is lower but higher than that of men.

5. Scenarios

The analysis of recent reforms on petroleum products and cement leads to considering two scenarios:

1. A 7.56% reduction in hydrocarbon prices. This rate reflects the provisions of the new 2024 hydrocarbon price reform, which lowered the cost of diesel and gasoline. It is expected to have an impact on the cost of transportation and energy, resulting in a drop in the price of basic necessities (a drop in inflation that would be beneficial for the economy). The beneficial effects on businesses will help generate more jobs.
2. A 35% reduction in the price of cement in accordance with Joint Decree 0105/MCI/ME/F of October 16, 2024, to promote access to construction materials. The development of the construction sector and all related activities is expected to raise the standard of living of Nigeriens and boost the sector by generating more jobs.

The analysis is carried out by considering three budgetary policy hypotheses: internal financing of the budgetary balance via domestic private savings, financing via the State budget and external financing through external support allowing the initial budgetary balance to be maintained.

6. Results and Discussion

6.1. Results of the reform on petroleum products

6.1.1. Effects on macroeconomic variables

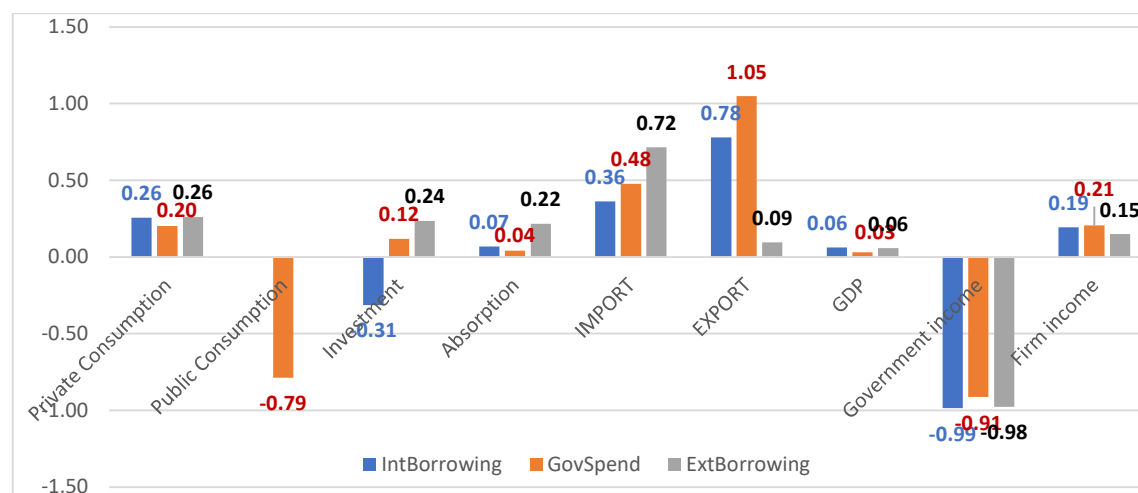
The impact on government revenue of a reduction in petroleum product prices appears relatively significant. Government revenue will decrease by approximately 1%, driven primarily by the reduction in the trade tax, which is offset by the increase in other taxes.

The results show a decline in investment that can contribute to slowing the country's economic activity, especially when the reform is financed internally. However, when financing is supported by the state budget or external borrowing, investment increases, as does private consumption. Regardless of the source of financing, the final effect on GDP is a slight increase of approximately 0.06%. The increase in exports is mainly explained by the increase in

production in most sectors of activity, while imports increase driven by the expansion of domestic demand. The variation in exports appears more significant in the internal and public financing scheme, which helps improve the trade balance.

However, the results show that debt financing results in an increase in exports of less than 0.1% and an increase in imports of 0.72%. Companies also benefit from the reform, as their revenues increase in all schemes.

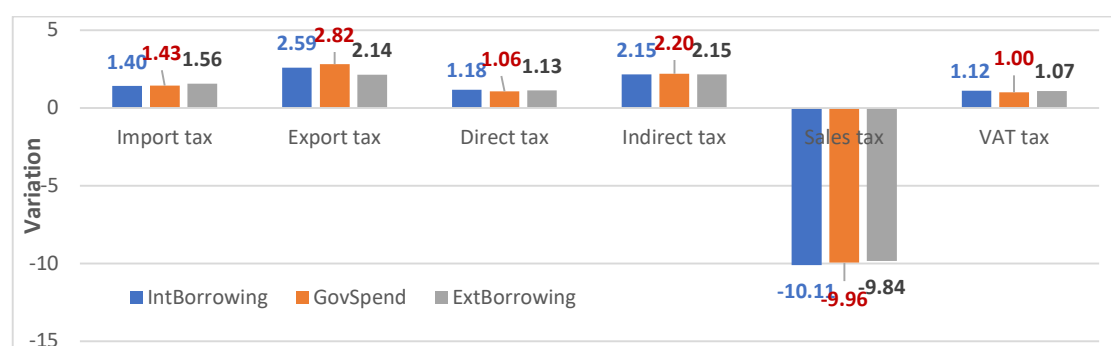
Figure 5: Impact on macroeconomic variables



Source: Authors

The decline in government revenue is the result of the reform's effect on taxes as shown in the figure 6 below.

Figure 6: Impact on tax rates in %



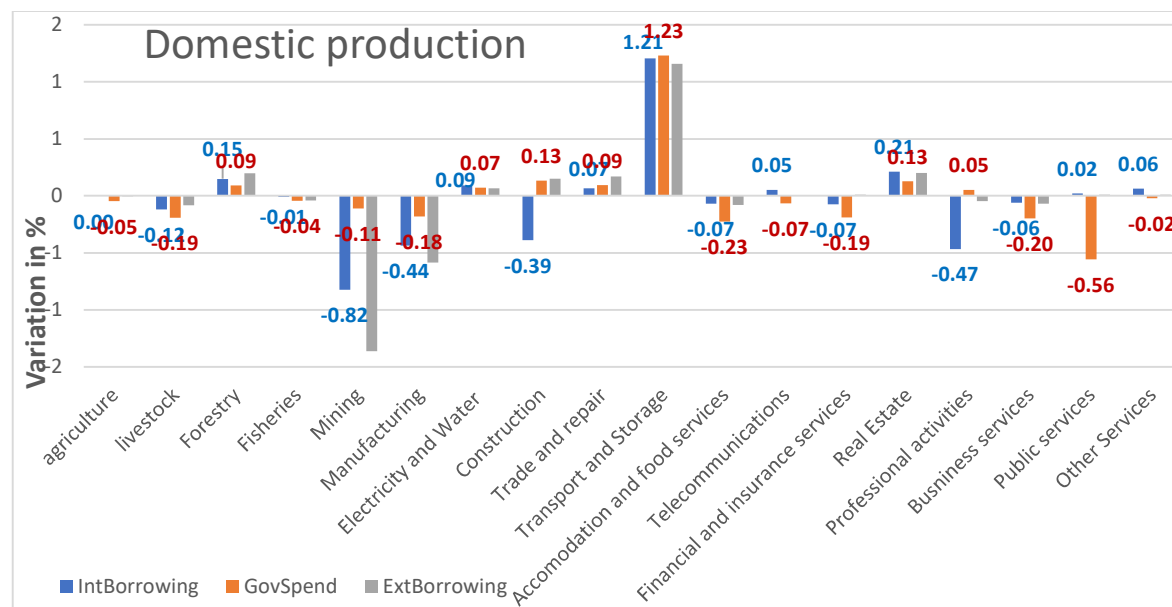
Source: Authors

6.1.2. Effects on sectoral variables

The fall in petroleum product prices has the effect of stimulating domestic demand in this sector but also in all sectors that use petroleum products in terms of intermediate consumption in their production cycle. We observe, in fact, an increase in domestic production in the transport sector and to a lesser extent in the trade, electricity, and real estate sectors. The most significant increase comes from the transport sector with a 1.21% increase in production. This result is logical since this sector uses more than 81% of petroleum products to carry out these activities.

However, the expected positive effects of the reform on the agricultural sector are not confirmed regardless of the financing scheme. This could be explained by the low mechanization of the sector and the existence of an informal supply network.

Figure 7: Sectoral effect on domestic production

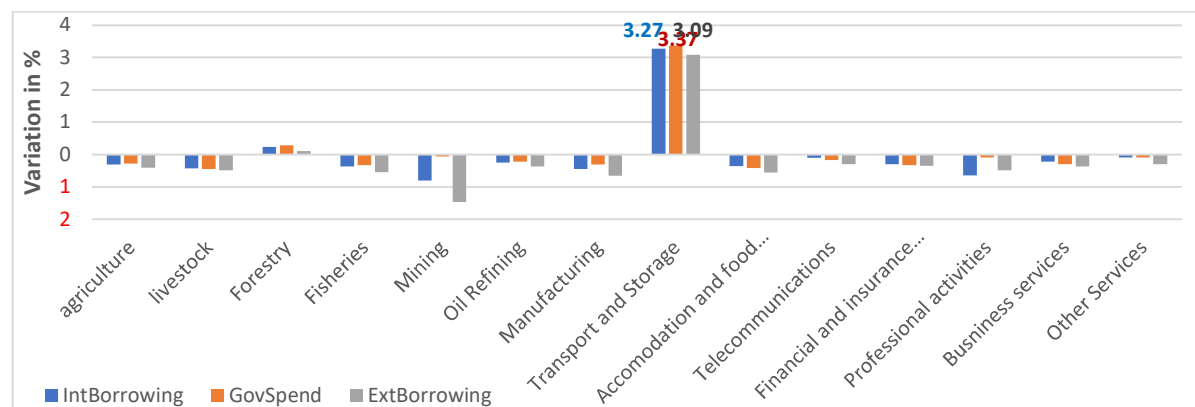


Source: Authors

Furthermore, the mining, manufacturing and livestock sectors are those that are negatively impacted by the reform since their production is decreasing.

The increase in branch production has repercussions on trade. The figure above shows an increase in exports in the transport and livestock sectors. For all other goods, exports decline. The increase in exports seems more pronounced in the case of public financing from the state budget, while the decline in exports is more significant in all sectors outside professional activities when the reform is supported by external borrowing. This situation can be explained by the decline in investments induced by the costs of borrowing.

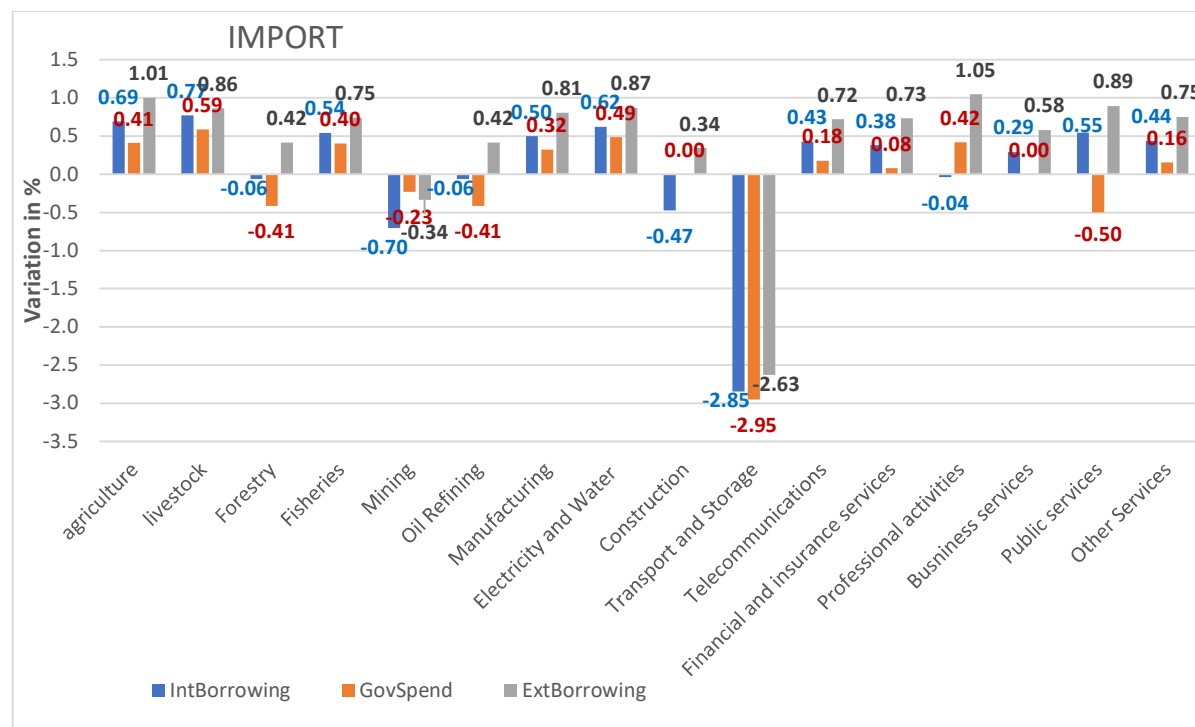
Figure 8: Sectoral effect on exports



Source: Authors

Furthermore, the increase in overall imports observed above actually presents disparities between sectors. Thus, we note an increase in imports in all sectors except transport and mining. This increase is all the more significant when the reform is financed by external borrowing. However, while the decline in imports in the transport sector can be explained by the increase in domestic production, that of the mining sector is rather the result of a decrease in domestic demand.

Figure 9: Sectoral effect on imports



Source: Authors

6.1.3. The effects on households

The effect of the reform on households is understood through its effect on the prices of goods and on household income. The figure above shows that the fall in the prices of petroleum products leads to a fall in consumer prices in the forestry, construction and transport sectors. In the latter sector, the amplitude of the variation is 1.07% in the case of financing via domestic debt and reaches 1.12% when financing comes from abroad. For all other sectors, consumer prices increase but have low amplitudes of less than 0.02%. However, it is important to note the increase in consumer prices of food products which risks being detrimental to household income. Rural households appear to be the most disadvantaged regardless of the financing scheme.

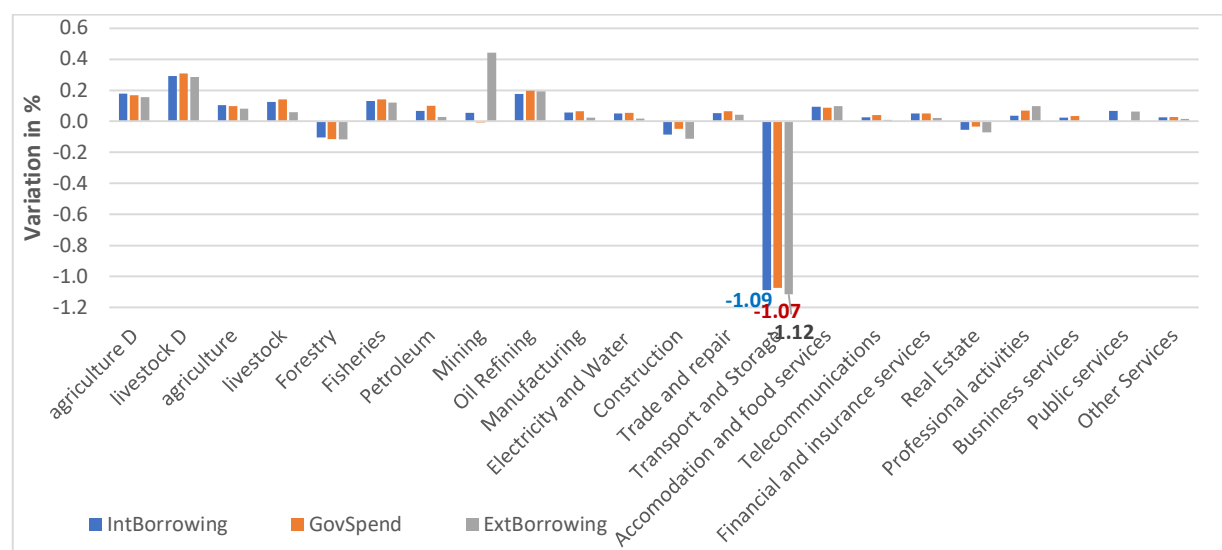
Table 2: Effect on the food price index

	FOOD PRICE INDEX	INTBORROWING	GOVSPEND	EXTBORROWING
URBAN	hh_Agadez	0.08	0.09	0.05
	hh_Diffa	0.07	0.09	0.03
	hh_Doss	0.08	0.08	0.04
	hh_Maradi	0.08	0.09	0.04
	hh_Tahua	0.07	0.09	0.03
	hh_Tilabery	0.08	0.09	0.05
	hh_Zinder	0.07	0.08	0.04
	hh_Niamey	0.07	0.08	0.04
RURAL	hh_Agadez	0.09	0.11	0.05
	hh_Diffa	0.07	0.09	0.03
	hh_Doss	0.09	0.11	0.06
	hh_Maradi	0.08	0.10	0.05
	hh_Tahua	0.09	0.10	0.05
	hh_Tilabery	0.08	0.10	0.05
	hh_Zinder	0.09	0.10	0.05
	hh_Niamey	0.08	0.09	0.04
URBAN AVERAGE		0.08	0.09	0.04
RURAL AVERAGE		0.09	0.10	0.05

Source: Authors

Given that consumption expenditure on transport services represents 4.5% and 3.6% of the consumption expenditure of urban and rural households respectively, it is undeniable that the reform will be more beneficial to urban populations. The beneficial gain on household purchasing power is also confirmed in the recent 2023 World Bank report, which highlights the resulting increase in consumption, which will have a positive impact on economic growth.

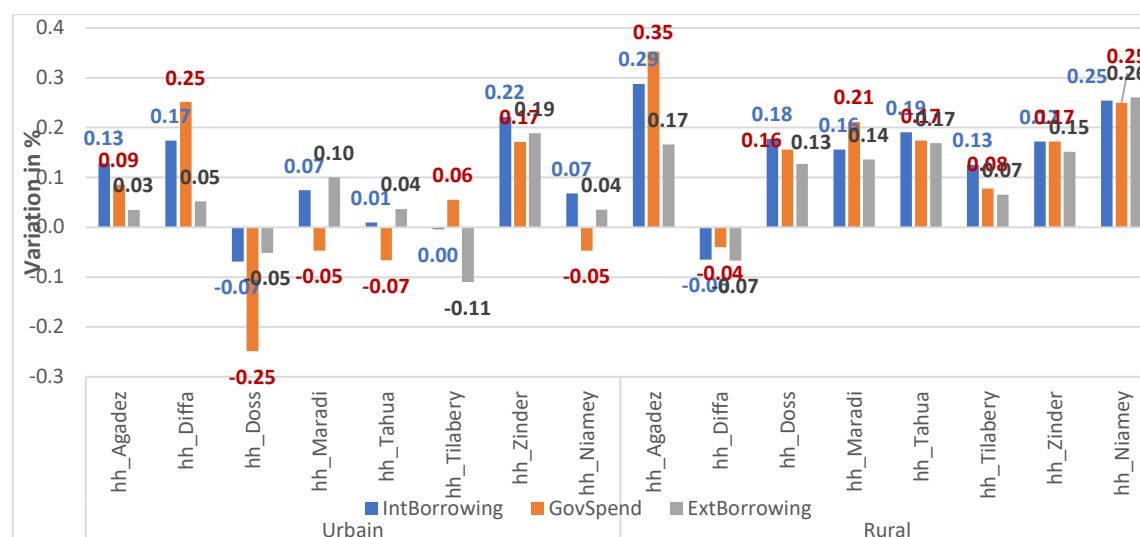
Figure 10: Effect on consumer price



Source: Authors

Looking at household income, we see that it is increasing for all households. However, the range of income variation is above 0.33%.

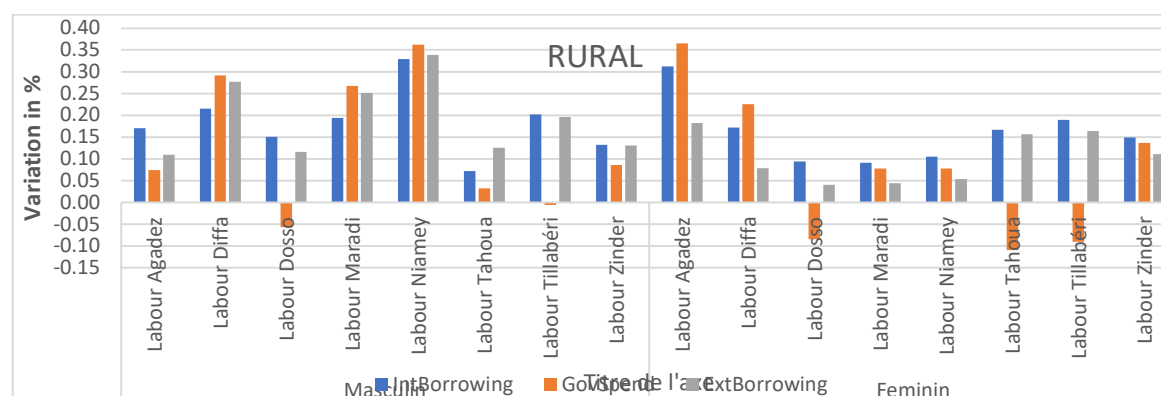
Figure 11: Effect on household income



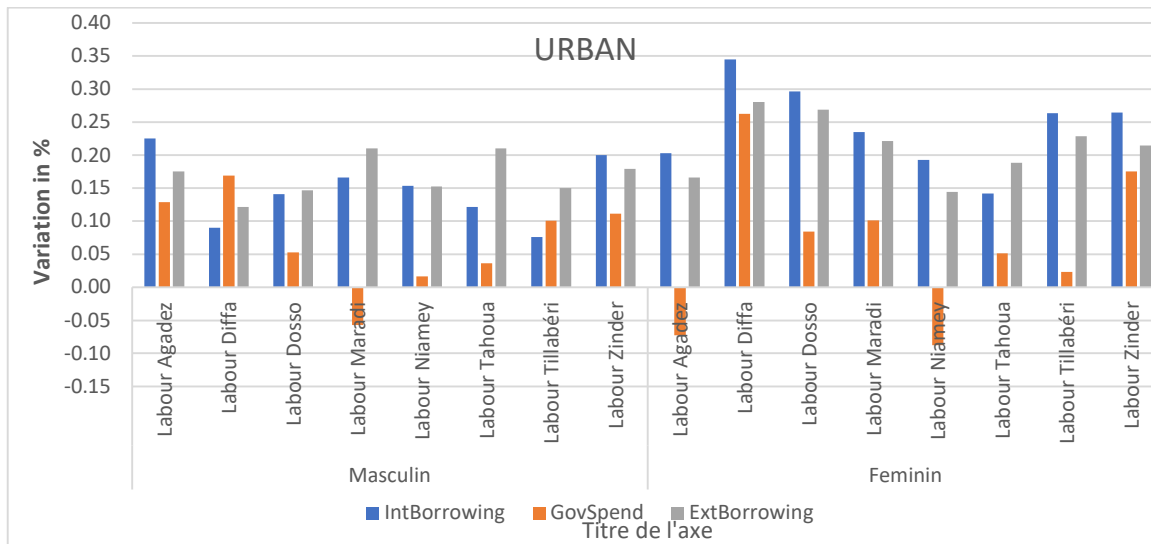
Source: Authors

Following the reform, the increase in branch production is supported by an increase in production factors. The figure confirms the beneficial effect of the fall in petroleum product prices on labor income, which is a component of household income. This increase seems to be more to the advantage of rural men, which risks widening gender inequalities. However, in urban areas, it is women who record the greatest variations in their labor income. Within expanding sectors, increases in labor demand are more likely to affect women, mainly in the electricity sector. Conversely, in contracting sectors, decreases in labor demand mainly affect women, with the exception of forestry.

Figure 12: Effect of labor on income by gender and place of residence



Source: Authors



Source: Authors

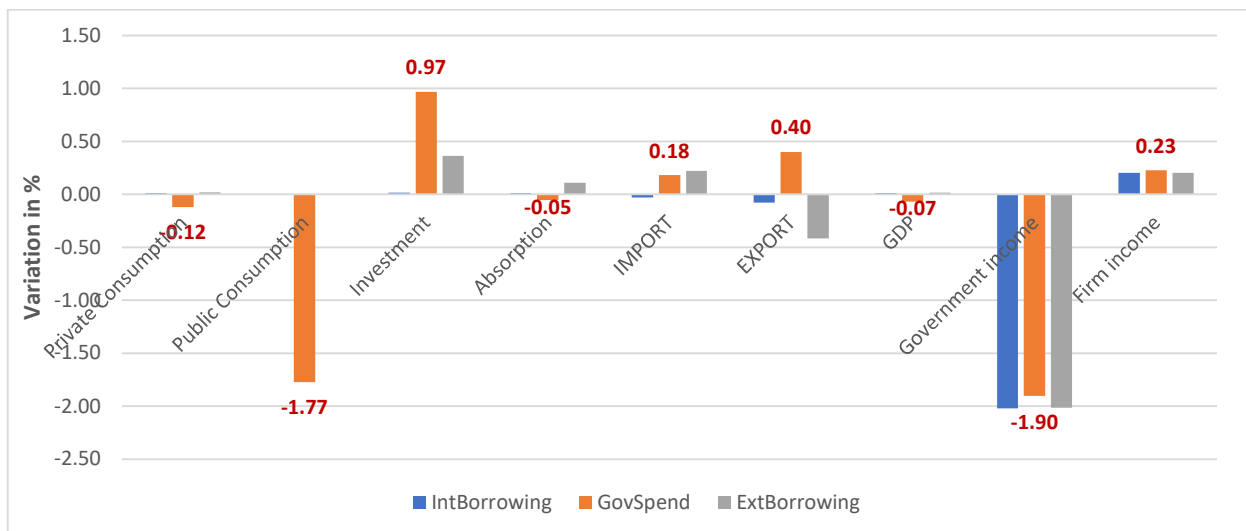
6.2. Results of the cement reform

6.2.1. Effects on macroeconomic variables

The cement reform will unexpectedly have a negative impact on economic growth, driven by a decline in public consumption (-1.77%) and government revenue (-1.9%). This decline in government revenue results from the elimination of cement taxes, the effect of which is mitigated by the significant increase in import taxes (2.5%) and value-added taxes.

In addition, the reform also contributes to disrupting trade . Exports vary by 1.6% and imports by 2% (respectively 1.9% and 2.4% in the case of external financing). This results in a slight decrease in GDP of around 0.07% under the assumption of public financing.

Figure 13: Impact of the cement reform on macroeconomic variables

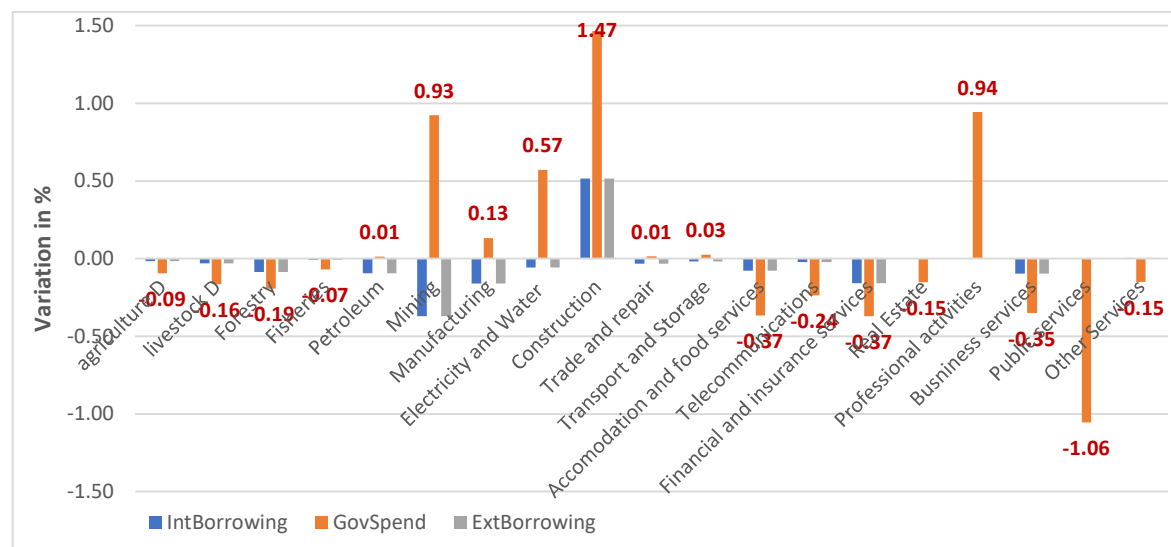


Source: Authors

6.2.2. Effects on sectoral variables and employment

The sectoral effects of the cement reform are analyzed from two perspectives: the effects on production and the effects on trade. The effects on production derive from the increase in domestic demand for cement at the expense of imported cement. The sector that benefits most from the reform is construction, with a greater effect when the reform is financed by state funds. The other sectors see their production increase only in the case of public financing and concern mining, electricity, professional activities, and the manufacturing sector.

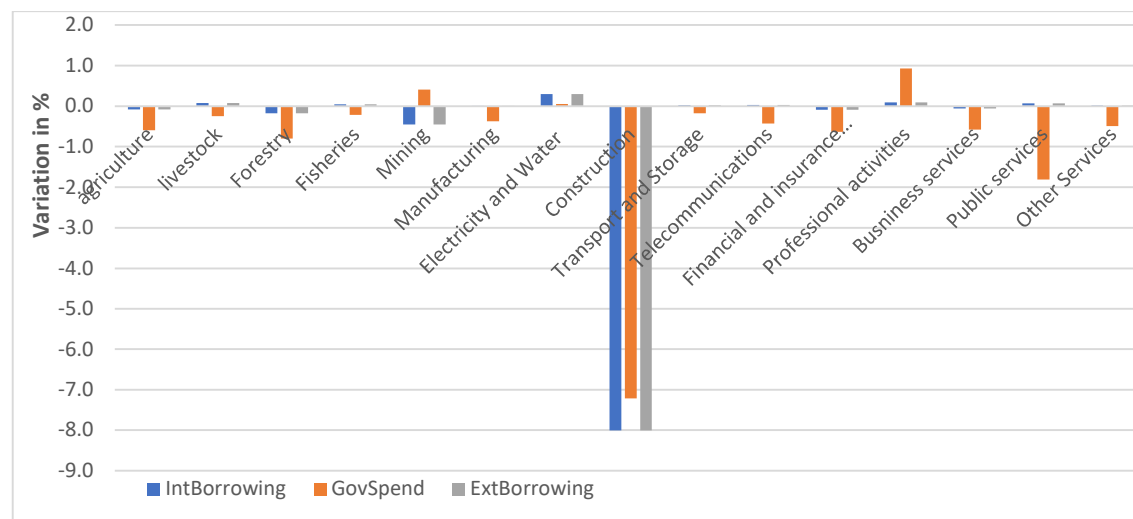
Figure 14: Impact on domestic production



Source: Authors

The effects of the cement reform on trade are presented in the table above and highlight a significant effect on imports in the construction sector.

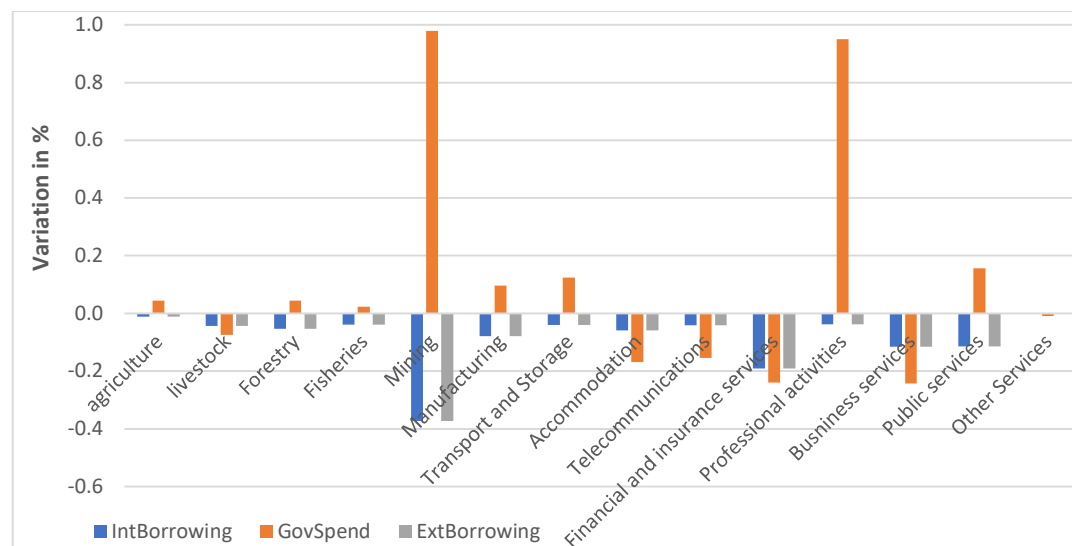
Figure 15: Impact on imports



Source: Authors

Exports increase in the mining, manufacturing, transportation, professional activities, and public services sectors primarily when the reform is financed from the state budget. In this case, the reform appears as a subsidy granted by the state.

Figure 16: Impact on exports

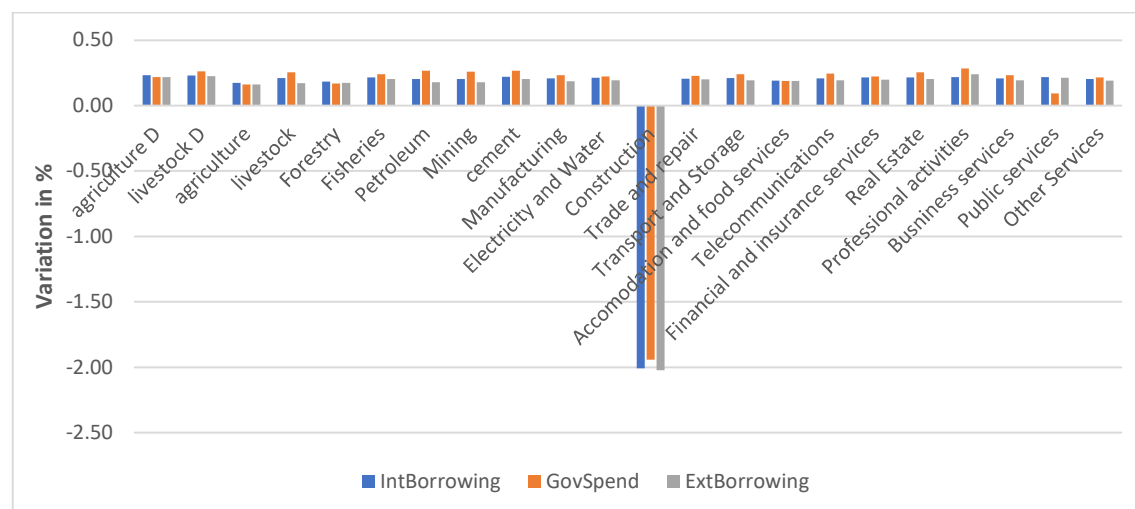


Source: Authors

6.2.3. The effects on households

In addition to its effects on productive factors, the reduction in the price of cement also has effects on consumer prices, the analysis of which is very important. The results show that the fall in the price of cement contributes to lowering the price of goods and services related to the construction sector but generates inflation in all other sectoral goods and services.

Figure 17: Impact on goods and services prices

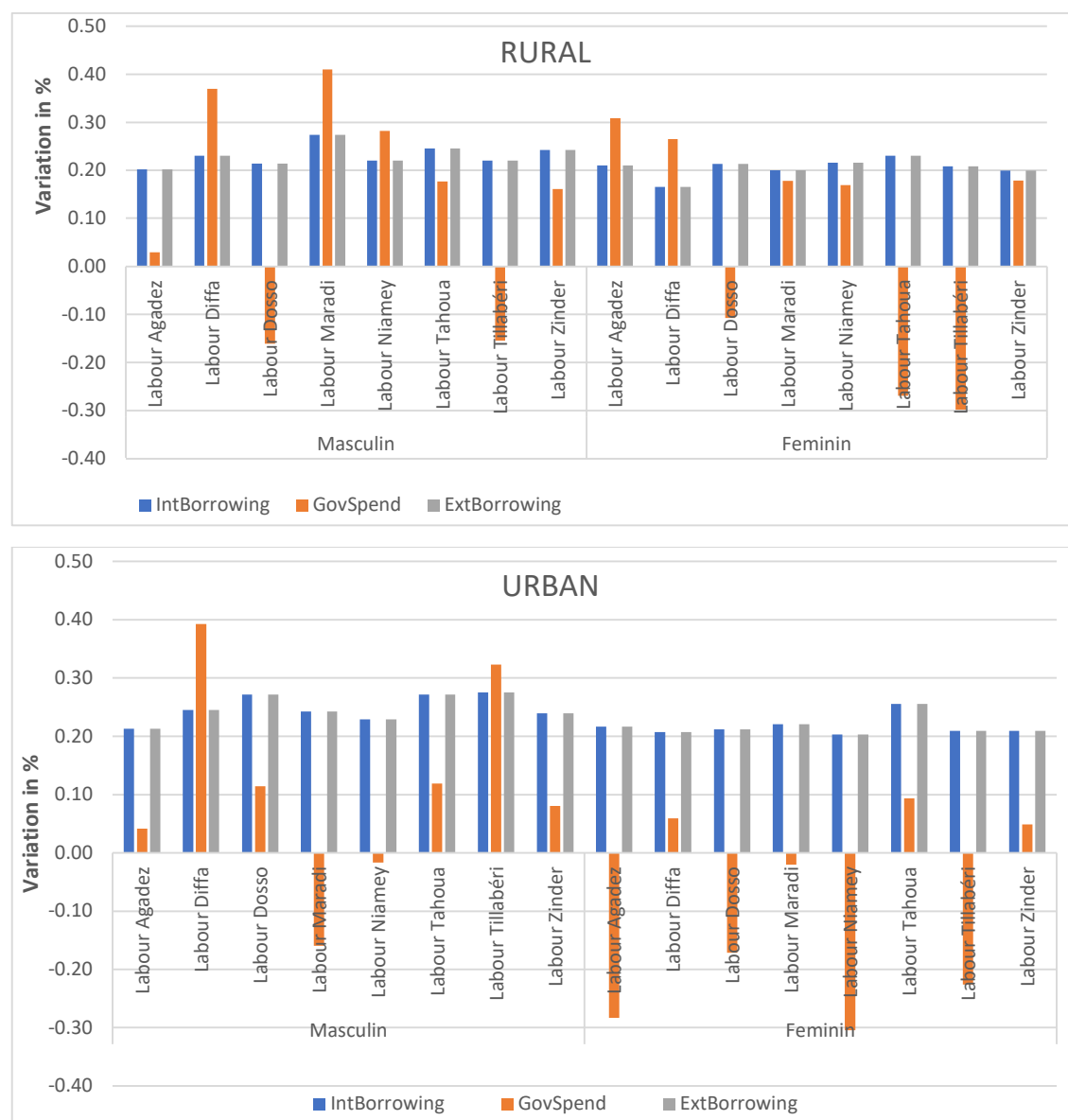


Source: Authors

However, to support the increase in production in the construction, mining, electricity, professional activities and manufacturing sectors, the demand for labor increases and results in

an increase in the income of the labor factor from these sectors. In rural areas as well as in urban areas, Nigerien men are the first winners, which contributes to increasing gender disparities.

Figure 18: Impact on urban and rural labor demand



Source: Authors

An analysis of household disposable income shows that financing the reform through direct funding from the state budget contributes to a deterioration in household income in Dosso, Maradi, and Niamey. Financing through domestic or external debt has the same effects on household income.

Table 3: Effect on household disposable income

Average household disposal income

		IntBorrowin g	GovSpend	ExtBorrowing
Urban	hh _Agadez	0.21	0.05	0.21
	hh _Diffa	0.23	0.39	0.23
	hh _Dosso	0.22	-0.25	0.22
	hh _Maradi	0.24	-0.06	0.24
	hh _Tahoua	0.27	0.08	0.27
	hh _Tillabery	0.22	0.28	0.22
	hh _Zinder	0.25	0.12	0.25
	hh _Niamey	0.22	-0.09	0.22
Rural	hh _Agadez	0.18	0.31	0.18
	hh _Diffa	0.19	0.22	0.19
	hh _Dosso	0.22	0.17	0.22
	hh _Maradi	0.24	0.37	0.24
	hh _Tahoua	0.21	0.17	0.21
	hh _Tillabery	0.21	0.08	0.21
	hh _Zinder	0.22	0.23	0.22
	hh _Niamey	0.21	0.24	0.21
Average Urban		0.23	0.07	0.23
Rural Average		0.21	0.23	0.21

Source: Authors

7. Conclusion

The impact of the various reforms analyzed on gender is appreciable through the observed effects on market work and domestic activities. These effects are reflected in the variations in labor supply and wages. Their analysis allows us to observe an overall negative trend in the evolution of gender inequalities. Indeed, the various reforms penalize women's work more. We observe that when labor supply decreases (case of skilled workers), these decreases are more significant for women. Oil and cement price subsidies are different, and their effects on the economy and households are naturally diverse.

The assessment conducted as part of this study highlights positive impacts at both the microeconomic and macroeconomic levels. The improvement in household income, the boost in purchasing power, and the overall perception of social well-being are encouraging results. However, the limitations identified, such as pressure on public finances, persistent social disparities, and the risks of dependence on subsidies, reveal the need for strategic adjustment.

The objective of this paper was to analyze the impact of oil and cement reforms implemented by the Nigerien government to support the Nigerien population and reduce the cost of living. Computable general equilibrium modeling allowed us to analyze the retraction effects of the reforms and their final effects on the well-being of men and women.

The estimation results suggest that the oil reform has a positive impact on the growth committed economists

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