

Economy-Wide Impacts of Global Oil Market Disruptions on Malawi: Evidence from Middle East Conflict-Induced Fuel Price Shocks

Innocent PANGAPANGA-PHIRI¹*, Wongani CHIRWA¹, Joseph KANYAMUKA¹, Moses CHITETE¹, Patrick CHIMSEU¹, and Thabbie CHILONGO¹

¹ Center for Agricultural Research and Development (CARD), Lilongwe University of Agriculture and Natural Resources, Bunda College of Agriculture, Lilongwe.

*Corresponding¹: ipangapanga@luanar.ac.mw

Abstract

Global oil market disruptions from Middle East tensions create risks for fuel-importing economies such as Malawi. This brief presents early findings on how the Middle East conflict affects Malawi via global petroleum price shocks. It uses a standard CGE framework adapted from the IFPRI Social Accounting Matrix. Key findings: (1) Global fuel price increases pass through strongly into domestic prices, especially in energy-intensive sectors. (2) Cost-push inflation is the main channel, reducing real incomes and purchasing power. (3) Macroeconomic conditions worsen, with declines in absorption, consumption, GDP, and indirect tax revenues. This occurs despite export growth and fewer imports. (4) External adjustment results in a welfare-reducing rebalancing. Gains from trade do not offset domestic contraction. (5) Broad-based inflation hits industrial sectors like chemicals, construction, and transportation. Food prices, especially maize, also rise, impacting welfare. (6) The agricultural sector diverges. Food crops shrink, while export-oriented crops such as oilseeds, tobacco, and pulses expand due to improved competitiveness. (7) Household income and consumption drop across all groups. Urban and higher-income households lose more proportionally, but poorer households are more vulnerable. (8) Poverty and hunger increase, especially in rural areas, showing regressive distributional effects. In summary, petroleum price shocks are contractionary and reduce welfare. This highlights Malawi's vulnerability to external energy shocks and the urgent need for coordinated policy, such as short-term stabilization and long-term investment in energy diversification and resilience.

Keywords: Fuel price shocks, Computable General Equilibrium, Household Income, Household Consumption, Poverty and inequality, Agricultural Productivity

1. Introduction

The Middle East remains central to global energy markets, accounting for approximately 30–35% of global oil supply, with the Strait of Hormuz handling about 20–30% of globally traded petroleum liquids. As one of the world's most critical maritime chokepoints, disruptions in this corridor have immediate and significant effects on global oil prices. Consequently, geopolitical tensions in the region transmit rapidly into

¹ Please cite this technical brief as: PANGAPANGA-PHIRI Innocent, Wongani CHIRWA, Joseph KANYAMUKA, Moses CHITETE, Patrick CHIMSEU, and Thabbie CHILONGO. (2026). [Economy-Wide Impacts of Global Oil Market Disruptions on Malawi: Evidence from Middle East Conflict-Induced Fuel Price Shocks](#). Technical Brief. Center for Agricultural Research and Development (CARD), Lilongwe University of Agriculture and Natural Resources, Bunda College of Agriculture, Lilongwe, Malawi.

international fuel markets, disproportionately affecting net oil-importing, low-income countries such as Malawi.

Malawi is a landlocked, low-income economy whose structural characteristics make it highly vulnerable to external shocks (National Planning Commission, 2021),

REVIEW OF THE RETAIL PRICE OF PETROL AND DIESEL FOR MARCH 2026

The Malawi Energy Regulatory Authority (MERA) considered the recommendations of its Energy Pricing Committee (EPC), which met on 25th March 2026, to review the petroleum prices. Since the last pump price adjustment on 20th January 2026, the average Free on Board (FOB) prices of Petrol and Diesel have increased by 42% and 87%, respectively, compared to the average prices obtained in January 2026, which were used to determine the ruling pump prices.

The FOB in March 2026 (daily average trading prices), road freight rates, railage, insurance, handling, and in-transit losses (Inbound Landed Costs "ILBC") plus levies and margins yielded the following recommended pump prices as listed in the table below:

Product	Ruling Pump Prices (MWK/Litre)	Approved Pump Prices (MWK/Litre)	% Change
Petrol	4,965	6,672	34%
Diesel	4,945	6,667	35%

Under the Automatic Pricing Mechanism (APM), both petrol and diesel qualify for price revision as the ILBC increase was greater than ±5% trigger band. Therefore, the pump prices of both petrol and diesel have been adjusted upwards as per the table above, effective **00:01 Hours on 1st April 2026**.

By law, all retail operators are required to sell Petrol and Diesel at prices not exceeding the above regulated approved maximum pump prices.

NOTE: The conflict in the Middle East continues to exert upward pressure on the world prices of petroleum products. Traditionally, suppliers' prices are based on previous months' published average prices, but due to the volatile price environment, all suppliers are currently demanding and using averages for a fortnight in the current month. This pricing methodology is temporary due to the Middle East conflict and the resulting disruption it has caused to the supply chain.

Lucas Kondowe
BOARD CHAIRPERSON
 31st March 2026

Figure A1. MERA pump price adjustment for diesel and petrol, 31/03/2026

including extreme weather events, global energy market volatility, and geopolitical instability (Banda, 2025; Pangapanga et al., 2023). Recent tensions characterized by Iran-USA-Israel war in the Middle East, a key hub of global oil supply, have intensified fluctuations in international petroleum prices. These fluctuations have direct implications for fuel-importing countries like Malawi. Fuel imports account for a significant share of Malawi's import bill, often exceeding 15–20% of total imports, making the economy highly sensitive to global oil price fluctuations. This transmission is already evident domestically. On March 31, 2026, the Malawi Energy Regulatory Authority (MERA) increased pump fuel prices for diesel from US\$ 2.83 to US\$ 3.82 per liter and for petrol from US\$ 2.84 to US\$ 3.81 per liter. MERA cited continued upward pressure on global

petroleum prices driven by the Middle East conflict (see Figure A1). Malawi's fuel pricing system typically relies on a lagged import cost structure. However, suppliers have temporarily shifted to a shorter pricing window of approximately a fortnight, responding to heightened global price volatility. This adjustment underscores how external shocks now feed into the domestic economy with immediacy and intensity (Sabola, 2024).

Malawi's vulnerability is further amplified by its landlocked position and reliance on regional transport corridors, particularly through Mozambique and Tanzania. Fuel imports are subject to high transport and logistics costs, which magnify global price shocks. In addition, persistent foreign exchange shortages constrain the country's ability to finance rising fuel import bills, reinforcing exchange rate depreciation and domestic price instability.

These external pressures interact with Malawi's underlying structural constraints (Kamkwamba, 2025). The economy remains heavily agrarian (Pangapanga et al., 2021). Agriculture employs the majority of the population and contributes significantly to national output. The industrial sector is small and dependent on imported intermediate input. Malawi relies almost entirely on imported petroleum to sustain transport, agro-processing, manufacturing, and service delivery systems. As a result, increases in global fuel prices are rapidly transmitted through higher production, transport, and transaction costs across the economy (Mulenga, 2024). These effects are further amplified by persistent trade deficits and limited export diversification. Rising fuel import bills put pressure on foreign

exchange reserves, contribute to exchange rate depreciation, and worsen the terms of trade. This combination fuels inflation and constrains economic growth. For instance, historical data² in Figure A2³ shows that periods of relatively lower or stable fuel prices (e.g., 2017–2019 and 2021) coincide with higher GDP growth rates, whereas sharp fuel price increases (2022–2023 and 2026) align with weaker growth outcomes, indicating a likely negative relationship between fuel price shocks and economic performance.

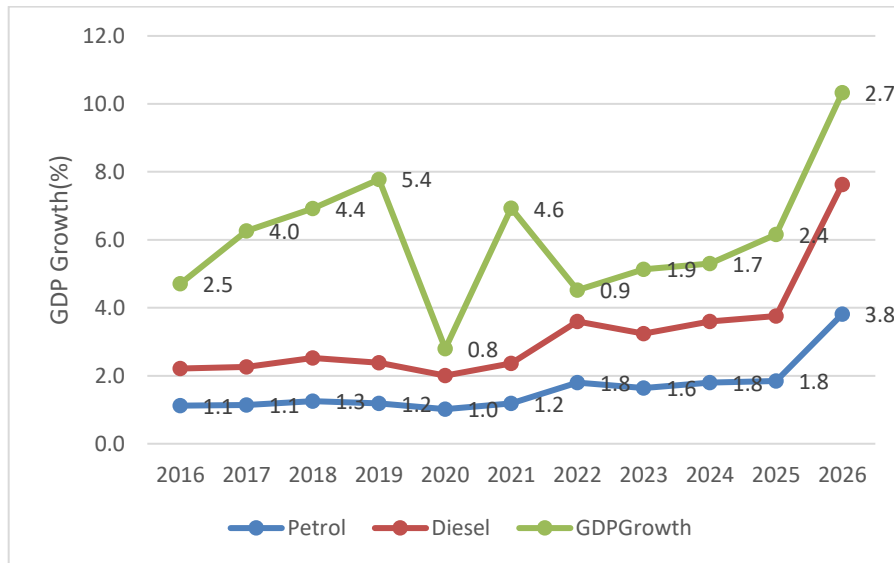


Figure A2. GDP growth across annualized prices of petrol and diesel prices in Malawi, WB/IMF 2016-2026

At the household level and in rural areas, these macroeconomic pressures translate into significant welfare losses. Malawi has widespread poverty and a high reliance on food imports. The country also has a limited capacity to absorb price shocks. Rural households, which depend largely on rainfed agriculture (Ngoma et al.,

2025) and low-skilled labor markets, are particularly vulnerable to rising input and transport costs. These costs reduce productivity and limit market access (Maganga et al., 2021). Urban households are also affected by increases in prices of food, energy, and other essential goods. These increases are transmitted through fuel-dependent supply chains. With Middle East-driven fuel price shocks, real incomes are expected to decline, consumption to contract, and poverty and food insecurity to intensify. Poorer and more vulnerable groups will be hit hardest. These dynamics highlight Malawi’s structural susceptibility to global fuel price fluctuations. They reinforce the need for an economy-wide analytical framework to capture transmission channels and inform effective policy responses.

The transmission of global fuel price shocks into the Malawian economy occurs through several interrelated channels as noted elsewhere by Manda et al. (2012), Chen, (2008), Choi et al. (2018), and Nasir et al. (2019). First, higher world oil prices increase the import cost of petroleum products, exerting pressure on foreign exchange reserves and the exchange rate. Second, rising domestic fuel prices increase transport and production costs across all sectors, particularly agriculture and manufacturing. Third, these cost increases are passed through into consumer prices, generating inflationary pressures. Fourth, rising prices reduce real household incomes and consumption,

² <https://www.imf.org/en/countries/mwi>

³ <https://www.worldbank.org/en/programs/global-fuel-pricing-and-subsidy-policies/fuel-prices>

particularly among poorer households. Finally, these effects translate into higher poverty and food insecurity, especially in rural areas.

2. Methodology

In this brief, we adopt a standard Computable General Equilibrium (CGE, an economic modeling technique for whole-economy analysis) framework based on the

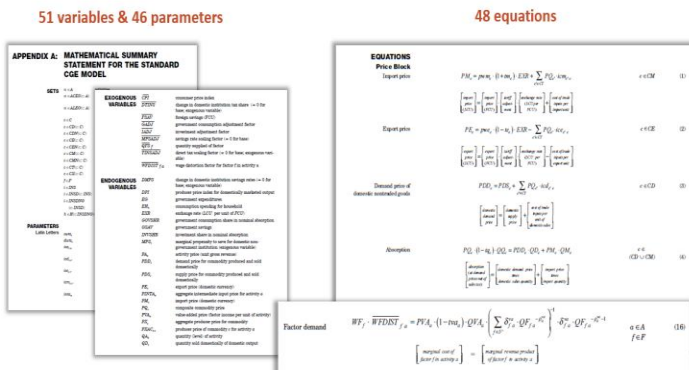


Figure A3. IFPRI Standard Model

International Food Policy Research Institute (IFPRI) Social Accounting Matrix (SAM, a data system presenting all financial flows in an economy) for the Malawian Economy (see Figure A3). It uses linear response functions to approximate the relationships between exogenous shocks, external changes such as fuel price increases, and endogenous economic outcomes, including production sectors, labor and capital (factor) markets, trade flows, and institutional accounts

(Mulenga, 2024). The model further distinguishes households by location (urban and rural) and income strata, enabling a nuanced assessment of distributional effects. This structure allows the CGE to trace how external shocks transmit through the economy, affecting production systems, relative prices, incomes, and welfare (Mukashov et al., 2025). We adopt the following macroeconomic closures: (i) the consumer price index (average retail prices for goods and services) is fixed as the numeraire; (ii) investment is savings driven, implying that total investment adjusts to available savings; (iii) government savings are fixed, with a uniform direct tax rate applied across institutions; and (iv) the exchange rate (price of local currency to foreign exchange) is flexible, allowing external imbalances to be absorbed through price adjustments (Lofgren et al., 2003).

We consider an increase in international petroleum prices (pw_{petr}), also interchangeably used as world petroleum prices (WPP) in this brief, where 'pw_petr' refers to the world price of petroleum, as the main exogenous shock. This serves as a proxy for global fuel market disruptions linked to geopolitical tensions in the Middle East (Harris and Robinson, 2001). The analysis simulates scenarios where fuel prices rise from 10% to 50% to capture different levels of external stress. For each scenario, the model calculates proportional changes in macroeconomic (economy-wide), sectoral (industry-specific), and household (or individual) outcomes using calibrated marginal impact coefficients (measured effects from a small change in prices). This linear approach means responses increase proportionally with the size of the shock, making the scenario analysis transparent and efficient. The framework shows both direct effects, such as higher domestic fuel costs, and indirect effects, including increased production costs, shifts in the trade balance, price changes, and variations in household incomes.

This analysis highlights the economy-wide transmission mechanisms and distributional consequences of fuel price shocks. Results are systematically

disaggregated by urban and rural households and by income groups to capture patterns of inequality and differential vulnerability. Particular emphasis is placed on welfare-related indicators, including household consumption, poverty, and hunger, expressed as percentage or percentage point changes to facilitate clear interpretation of impacts. By integrating macroeconomic, sectoral, and micro-level outcomes within a unified analytical framework, the adopted approach delivers a comprehensive and internally consistent assessment of fuel price shocks. This ensures that policy insights are firmly grounded in CGE effects, capturing both aggregate adjustments and heterogeneous impacts across population groups, rather than relying on partial or sector-specific perspectives.

3. Results and Discussion

3.1. Economy-wide impacts of the Middle East Conflict on selected Macroeconomic Fundamentals in Malawi

The results provide strong evidence that increases in world petroleum prices associated with a Middle East conflict generate pronounced contractionary pressures on Malawi’s macroeconomic fundamentals, operating primarily through domestic demand compression and cost-push inflation (Figure A4). Absorption declines markedly from -0.72% at 10% to -4.32% at 50%, closely tracking the sharp fall in consumption (-0.95% to -5.39%), which

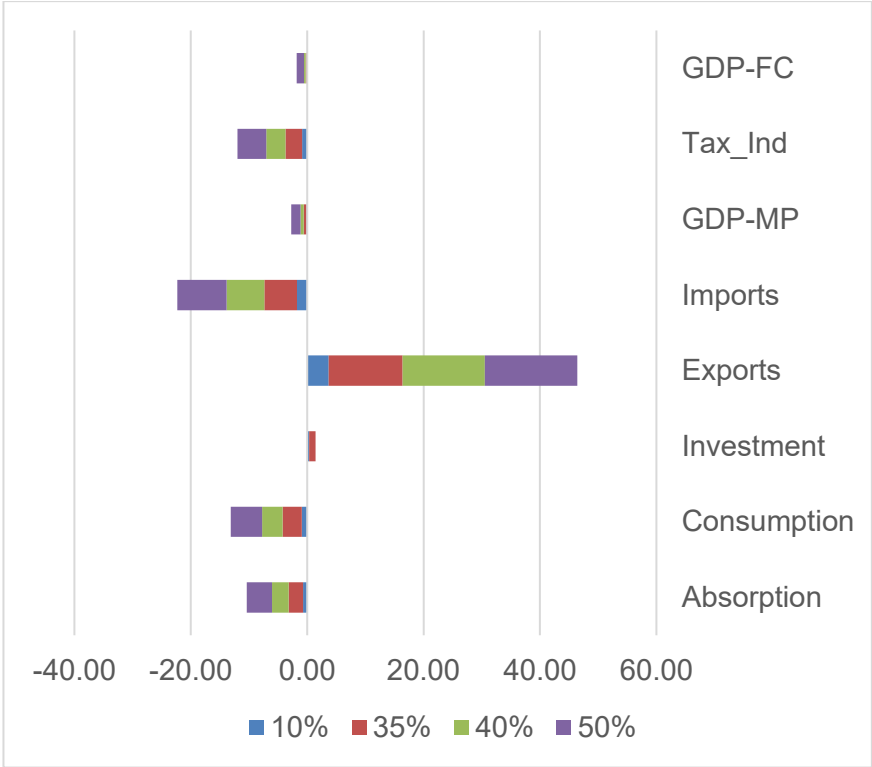


Figure A4. Macroeconomic effects of WPP

reflects a significant erosion of real household incomes as energy, transport, and input costs cascade through the economy. This pattern underscores the high pass-through of fuel prices into consumer prices and production costs, amplifying inflationary pressures and suppressing purchasing power. The initial increase in investment (0.36% at 10% and 1.07% at 35%) suggests short-run adaptive responses, such as energy substitution or efficiency improvements;

however, the stagnation at higher shock levels signals tightened liquidity conditions, heightened uncertainty, and reduced expected returns, all of which dampen capital formation. With government expenditure and inventories held constant under the macro

closure, the adjustment burden falls disproportionately on households and firms, reinforcing a cycle of demand contraction, reduced economic activity, and weakened internal market dynamics.

At the same time, the external sector becomes the primary adjustment margin, exhibiting strong but compensatory rebalancing. Exports rose substantially from 3.69% to 15.90%, while imports contracted from -1.74% to -8.46%, indicating a shift toward import compression and export expansion, likely facilitated by real exchange rate depreciation and declining domestic absorption. However, this external adjustment is largely involuntary and welfare-reducing, driven more by constrained import demand than by productivity-led export growth. Consequently, overall economic performance still deteriorates: GDP at market prices declines from -0.11% to -1.63%, and GDP at factor cost from -0.06% to -1.26%, confirming that gains from net exports are insufficient to offset domestic losses. The substantial decline in indirect tax revenues (-0.85% to -4.95%) further signals shrinking taxable consumption and trade bases, posing risks to fiscal sustainability in a context where public spending is fixed. Collectively, these results point to a structural adjustment pathway characterized by stag-flationary pressures, external imbalance correction, and fiscal strain, highlighting Malawi's acute vulnerability to global energy price shocks and the limited resilience of its domestic economy under severe external disturbances.

From a policy perspective, these findings imply that mitigating the macroeconomic fallout of petroleum price shocks requires a combination of short-term stabilization and long-term structural reforms. In the short run, targeted fiscal measures, such as temporary subsidies for critical sectors or social protection for vulnerable households, could help cushion welfare losses without excessively distorting markets. At the same time, monetary and exchange rate policies need to carefully balance inflation control with maintaining external competitiveness. Over the medium to long term, reducing structural dependence on imported fuel through energy diversification, investment in renewable energy, and improvements in domestic productivity and value addition will be critical to enhancing resilience. Strengthening domestic revenue mobilization and building fiscal buffers can also improve the government's capacity to respond to future external shocks.

3.2. Economy-wide impacts of the Middle East Conflict on selected commodity prices in Malawi

The results indicate that increases in world petroleum prices (WPP) associated with a Middle East conflict generate broad-based inflationary pressures across Malawi's economy, with the magnitude of price increases rising sharply as the shock intensifies from 10% to 50% (Figure A5). At the aggregate level, overall prices increase modestly from 0.16% at 10% to 2.12% at 50%, masking substantial sectoral variation. Non-agricultural sectors drive much of this inflation, with prices rising from 0.20% to 2.42%, compared to a more muted and less consistent response in agriculture. The initial slight decline in agricultural prices (0.06% at 10%) suggests short-run adjustment or supply responses, but this quickly rises at higher shocks. Overall, the pattern reflects strong cost-push inflation, driven by higher fuel and transport costs that permeate production and distribution systems.

Industrial sectors exhibit the largest and most rapid price increases, highlighting their high energy intensity and dependence on imported inputs. In particular, chemicals,

rubber and plastics show extreme sensitivity, with prices surging from 8.42% at 10% to 41.92% at 50%, indicating substantial exposure to petroleum-based inputs. Similarly,

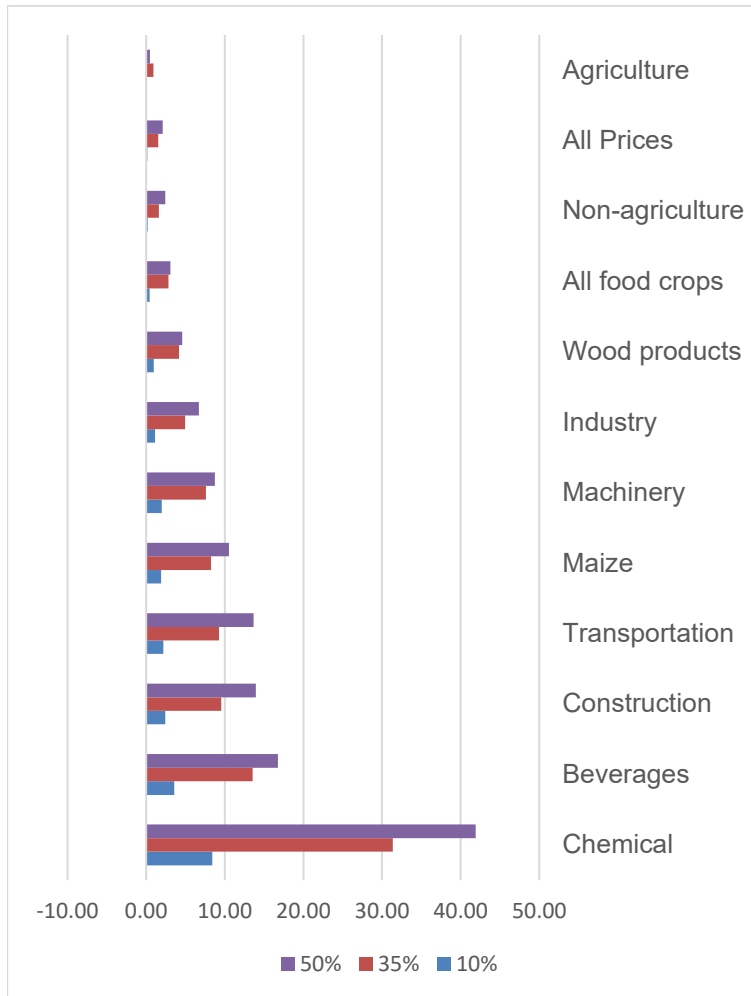


Figure A5. Impact of WPP on commodity prices

beverages (3.55% to 16.77%), construction (2.41% to 13.96%), and transportation and storage (2.18% to 13.67%) experience steep price escalations, reflecting both direct fuel use and indirect input cost linkages. Other manufacturing-related sectors, including metals, machinery and equipment, non-metal minerals, and wood products, also record notable increases, underscoring the role of inter-industry linkages in amplifying inflationary transmission. These findings suggest that petroleum price shocks disproportionately affect sectors central to production networks, thereby spreading inflation economy-wide.

In contrast, agricultural and food-related commodities show relatively smaller but still significant price increases, with important implications for welfare. All food crops increase from 0.43% to 3.08%, while maize, the staple

food, rises sharply from 1.92% to 10.51%, indicating that even the agricultural sector is not insulated from energy shocks. These increases are driven largely by indirect channels, including higher transport costs, fertilizer prices, and agro-processing expenses. Although agriculture appears less responsive overall compared to industry, the rise in staple food prices is particularly concerning in a context where households devote a large share of income to food consumption. Thus, even moderate increases translate into significant cost-of-living pressures and food security risks. Overall, the results highlight that petroleum price shocks induce economy-wide inflation with severe sectoral disparities, disproportionately affecting industrial sectors while still exerting critical pressure on food prices and household welfare.

3.3. Economy-wide impacts of the Middle East Conflict on Malawi's agricultural contribution to GDP

The results show that increases in world petroleum prices associated with a Middle East conflict generate heterogeneous effects on agricultural contributions to GDP at market prices in Malawi, with overall contraction masking sharp subsectoral divergence (Figure A6). Aggregate agriculture declines modestly from -0.07% at 10% to -1.10% at 50%, reflecting rising production and transport costs that reduce sectoral value added. This contraction is driven largely by food crop subsectors, where GDP contributions fall consistently, particularly for staples such as maize (-1.03% to -5.74%), rice (-0.14% to -1.80%), and other cereals (-0.75% to -6.18%). These declines indicate strong sensitivity to input costs (fertilizer, fuel, and logistics), compounded by reduced domestic demand and weaker profitability. Similarly, roots and tubers, vegetables, fruits, and sugar all experience sustained contractions, highlighting the vulnerability of domestically oriented, consumption-linked agricultural systems to energy price shocks.

In contrast, export-oriented and selected high-value crops exhibit strong positive gains, reflecting a reallocation of resources toward tradable sectors under external adjustment. Oil seed crops show the most dramatic increase (3.77% to 20.39%), followed by tobacco (2.09% to 8.04%), pulses (1.44% to 7.23%), and coffee (1.21% to 4.42%), indicating enhanced competitiveness, likely driven by real exchange rate depreciation and improved export prices. The broader category of export crops (1.85% to 7.02%) reinforces this outward-oriented shift. However, not all export crops benefit, as cotton continues to decline (-0.32% to -2.64%), suggesting structural constraints or weaker market linkages.

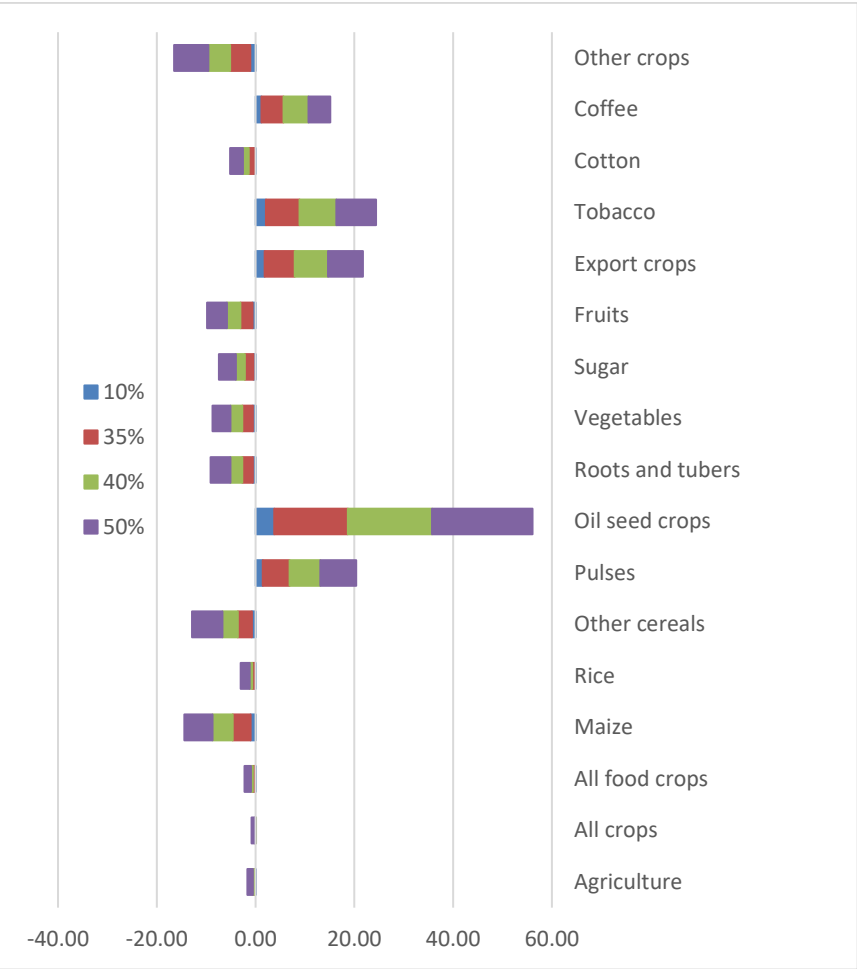


Figure A6. Agricultural Contribution to GDP at market price

Overall, the findings reveal a structural transformation within agriculture, where petroleum price shocks suppress food-oriented production while incentivizing export crop expansion, with important implications for food security, income distribution, and agricultural policy in Malawi.

3.4. Economy-wide impacts of the Middle East Conflict on household income in Malawi

The results show that rising world petroleum prices, triggered by a Middle East conflict, generate broad-based declines in household income across Malawi, with the

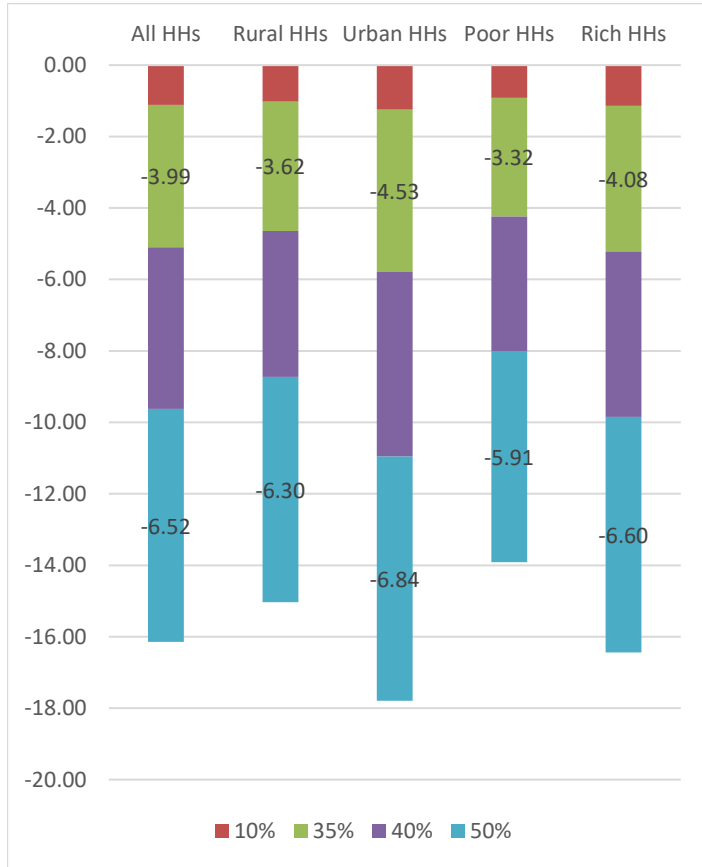


Figure A7. Impact of WPP on household income

magnitude of losses increasing sharply as the shock intensifies (Figure A7). At the aggregate level, income for all households falls progressively from ,1.11% (10% shock) to ,6.52% (50% shock), reflecting strong economy-wide transmission through higher transport and production costs, inflationary pressures, and reduced economic activity. These effects are consistent with earlier macro results showing contraction in absorption and consumption, which directly compress household earnings. The nonlinear pattern suggests that while the economy absorbs mild shocks with limited disruption, larger petroleum price increases (35%–50%) lead to significant real income erosion, indicating vulnerability to external energy shocks.

Disaggregation reveals important distributional dynamics. Urban households are consistently the most affected (up

to ,6.84%), likely due to their greater dependence on market-based consumption, transport, and energy-intensive services, making them more exposed to cost-of-living increases. In contrast, rural households experience slightly smaller declines (up to ,6.30%), possibly reflecting partial subsistence production that cushions income shocks. Interestingly, poor households show relatively smaller proportional losses (from ,0.92% to ,5.91%) compared to rich households (from ,1.14% to ,6.60%), suggesting that while the poor are vulnerable, their lower integration into formal markets and limited energy consumption slightly dampens the immediate income effect. However, in absolute welfare terms, poorer households are likely to face more severe hardship, as even small income losses can significantly affect food security. Overall, the findings highlight that petroleum price shocks from geopolitical conflict have regressive welfare implications in practice, intensifying economic stress across all groups while disproportionately affecting urban livelihoods and deepening vulnerability.

3.5. Economy-wide impacts of the Middle East Conflict on household consumption in Malawi

The results show that increases in world petroleum prices associated with a Middle East conflict generate systematic and escalating declines in household consumption across Malawi, with the severity of impacts rising from 10% to 50% shocks (Figure A8). Aggregate household consumption decreases from -0.95% at 10% to -5.44% at 50%, driven by declining real incomes, rising transport and energy costs, and broader inflationary pressures that erode purchasing power. This pattern aligns with economy-wide adjustments in which reduced absorption and income directly suppress consumption demand. While the relatively small decline at 10% suggests limited short-run adjustment, the much sharper contractions at higher shock levels (35% to 50%) point to substantial welfare losses and a pronounced demand-side slowdown, with adverse implications for growth and poverty.



Figure A8. Impact of WPP household consumptions

Disaggregated outcomes reveal clear distributional differences. Urban households experience the largest consumption declines (from -1.20% to -6.48%), reflecting their greater reliance on market-purchased goods, transport, and energy-intensive services, which heightens exposure to fuel price increases. Rural households are comparatively less affected (from -0.73% to -4.49%), likely due to partial subsistence production that cushions consumption shocks. Across income groups, rich households register larger proportional consumption losses (from -1.00% to -5.70%) than poor households (from -0.55% to -3.43%), indicating that more consumption-intensive lifestyles are more sensitive to energy-related price increases. However, despite these smaller percentage declines, poorer households remain more vulnerable in welfare terms, as even minor reductions in consumption can significantly undermine food security. Overall, the findings highlight that petroleum price shocks induce broad-based consumption contraction, with stronger relative impacts in urban and higher-income groups, while still posing serious risks for poverty and household resilience.

3.6. Economy-wide impacts of the Middle East Conflict on Poverty and Hunger in Malawi

The results show that increases in fuel prices lead to a clear rise in both poverty and hunger, with effects intensifying as the magnitude of the shock increases (Figure A9).

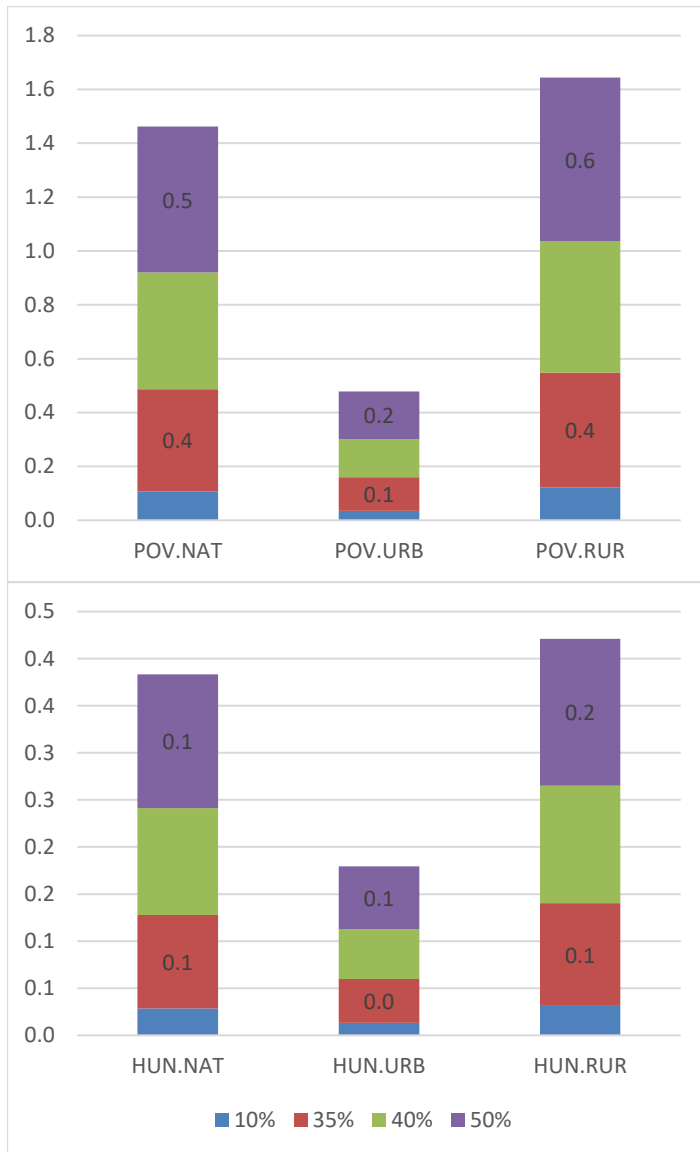


Figure A9. Impact of WPP on poverty (POV) and hunger (HUN)

National poverty (POV.NAT) rises from 0.1 percentage points with a 10% increase in fuel prices to 0.5 percentage points with a 50% increase, indicating a steady deterioration in living standards. This increase reflects the combined effect of declining real incomes and rising prices, particularly for essential goods such as food and transport. Hunger (HUN.NAT) also increases, though more modestly, suggesting that households adjust consumption patterns but still face worsening food security outcomes. A strong rural-urban disparity is evident in the results. Rural poverty (POV.RUR) increases significantly more than urban poverty (POV.URB), reaching 0.6 percentage points at a 50% shock compared to only 0.2 percentage points in urban areas. (Lofgren et al., 2001)

Similarly, rural hunger rises more than urban hunger. This reflects the structural characteristics of Malawi's economy, where rural households depend heavily on agriculture and are more exposed to increases in fuel costs through transport and input channels. In contrast, urban households, while affected by higher prices, have relatively more

diversified income sources and better access to coping mechanisms. Overall, these findings confirm that fuel price shocks have strongly regressive welfare effects, disproportionately impacting rural populations and exacerbating existing inequalities. Even relatively moderate increases in fuel prices (e.g., 20–35%) lead to noticeable increases in poverty, highlighting the sensitivity of vulnerable households to external shocks. The simultaneous rise in poverty and hunger underscores that these shocks not

only reduce incomes but also directly affect food access and nutritional outcomes, reinforcing the need for targeted policy interventions.

4. Conclusion and Policy Options for Malawi

Overall, these preliminary results demonstrate that increases in world petroleum prices, triggered by a Middle East conflict, impose significant and multidimensional pressures on Malawi's economy, primarily through cost-push inflation and contraction in domestic demand. Macroeconomic fundamentals deteriorate as absorption, consumption, and GDP decline, while fiscal space weakens due to falling indirect tax revenues. Although the economy adjusts through export expansion and import compression, this rebalancing is largely involuntary and insufficient to offset domestic losses. At the sectoral level, energy-intensive industries experience sharp price increases, while agriculture shows mixed responses, with food crops contracting and export-oriented crops expanding. These dynamics reflect structural rigidities and a high dependence on imported energy, which amplify the transmission of external shocks across the economy.

At the micro level, the adverse impacts are strongly felt through declining household income and consumption, alongside rising poverty and hunger, particularly among rural populations. While urban and higher-income households experience larger proportional declines, poorer households face greater welfare risks due to their limited coping capacity and high reliance on food consumption. Overall, the results highlight the regressive and welfare-reducing nature of petroleum price shocks, exacerbating existing vulnerabilities and inequalities. Addressing these challenges requires a combination of short-term policy responses to cushion vulnerable groups and long-term structural strategies, including energy diversification, productivity enhancement, and strengthened social protection systems, to build resilience against future external shocks.

Our simulations underscore the urgency of adopting integrated policy responses that combine short-term cushioning measures with long-term strategies to enhance energy security, agricultural productivity, and economic diversification, thereby reducing Malawi's vulnerability to external shocks and promoting more inclusive and resilient growth. We therefore present the following eight policy options that move from short-term cushioning measures to long-term productivity-enhancing strategies:

Short-Term Cushioning and Stabilization Measures

1. **Targeted fuel and transport subsidies for essential sectors** by introducing temporary, well-targeted subsidies for public transport, agriculture, and food distribution systems to cushion the immediate pass-through of price increases into food prices and essential services, while avoiding broad and fiscally unsustainable interventions. In the short term, the government, through MERA, could reduce or temporarily suspend selected fuel levies, such as the carbon tax and other cost build-up components, to ease pump prices and moderate inflationary pressures.
2. **Scale up social protection and shock-responsive safety nets** by expanding cash transfer programs and food assistance to cushion declining real incomes, rising poverty, and worsening food insecurity, with priority targeting of rural and low-income households. In addition, vulnerable populations in the peri-urban areas of Lilongwe, Mzuzu, Zomba, and Blantyre should be explicitly integrated into



scalable social protection systems, given their increasing exposure to fuel-driven cost-of-living pressures.

3. **Stabilize food markets through strategic reserves and trade policy** by strengthening grain reserve management through timely bulk procurement, strategic stock releases, and improved storage and distribution systems to stabilize food supply and prices. Particular priority should be given to districts in the Southern Region that have been most affected by prolonged dry spells, as well as to other districts affected by excessive rainfall, ensuring targeted food distribution and price-stabilization interventions to shield vulnerable populations from compounded shocks from climate and fuel-driven inflation.

Medium-Term Adjustment and Resilience Building

1. **Promote energy efficiency across key sectors** by adopting fuel-efficient technologies in transport, agro-processing, and small-scale manufacturing, thereby reducing the economy's sensitivity to fuel price shocks.
2. **Strengthen agricultural input and output market systems** through investing in rural infrastructure, including roads and storage, to reduce transport costs, improve market access, and mitigate the impact of fuel price increases on income and food prices.
3. **Develop risk management and insurance mechanisms:** Promote agricultural insurance, price-stabilization instruments, and risk-sharing mechanisms to help farmers cope with rising production costs and income volatility driven by external shocks, including extreme weather events.

Long-Term Structural Transformation and Productivity Enhancement

1. **Diversify energy sources and invest in domestic alternatives:** Accelerate investment in renewable energy, such as solar and hydro, and promote alternative fuels to reduce dependence on imported petroleum and enhance energy security, for example, for agroprocessing.
2. **Drive agricultural productivity and value chain transformation:** Support climate-smart agriculture, mechanization, irrigation, and value addition to increase productivity, reduce unit costs, and strengthen resilience to cost-push shocks from fuel price increases.

Given Malawi's fiscal constraints, policy responses must balance short-term relief with long-term sustainability, making the careful prioritization and sequencing of interventions central to effective policy design.

Reference

- Aktuğ, E. & Rezghi, A. (2026). Optimal Exchange Rate Policy with Oil Shocks. IMF Working Papers 2026. <https://doi.org/10.5089/9798229033220.001>
- Banda, A. (2025). Evaluating Coping Measures Amid Chronic Foreign Exchange Shortages on Survival and Growth for Small-Scale Businesses in Malawi-Case of Used Car Dealers in Blantyre City (Master's thesis, Malawi University of Science and Technology).
- Chen, S. (2008). Oil price pass-through into inflation. *Energy Economics*, 31(1), 126-133. <https://doi.org/10.1016/j.eneco.2008.08.006>
- Choi, S., Furceri, D., Loungani, P., Mishra, S., & Poplawski-Ribeiro, M. (2018). Oil prices and inflation dynamics: Evidence from advanced and developing economies. *Journal of International Money and Finance*, 82, 71-96. <https://doi.org/10.1016/j.jimonfin.2017.12.004>
- Harris, R. L., & Robinson, S. (2001). A standard computable general equilibrium (CGE) model in GAMS (No. 75). International Food Policy Research Institute (IFPRI).
- Kankwamba, H. (2025). Adapting to extreme weather conditions in a developing country: an economywide policy assessment from Malawi. *Agrekon*, 64(1), 72-85.
- Lofgren, H., Chulu, O., Sichinga, O., Simtowe, F., Tchale, H., Teska, R. & Wobst, P. (2003). External shocks and domestic poverty alleviation: simulations with a CGE model of Malawi. *World Development* 31(7), pp. 1149-1164. [https://doi.org/10.1016/S0305-750X\(03\)00056-0](https://doi.org/10.1016/S0305-750X(03)00056-0)
- Lofgren, H., Chulu, O., Sichinga, O., Simtowe, F., Tchale, H., Teska, R. & Wobst, P. (2001). External shocks and domestic poverty alleviation: simulations with a CGE model of Malawi. *Journal of African Economies* 10(2), pp. 1-35. <https://doi.org/10.22004/ag.econ.16299>
- Maganga, A. M., Chiwaula, L., & Kambewa, P. (2021). Climate induced vulnerability to poverty among smallholder farmers: Evidence from Malawi. *World Development Perspectives*, 21, 100273. <https://doi.org/10.1016/j.wdp.2020.100273>
- Mandal, K., Bhattacharyya, I., & Bhoi, B. B. (2012). Is the oil price pass-through in India any different? *Journal of Policy Modeling*, 34(6), 832-848. <https://doi.org/10.1016/j.jpolmod.2012.06.001>
- Mukashov, A., Duchoslav, J., Kankwamba, H., Jones, E. & Thurlow, J. (2025). Malawi: Systematic analysis of climate and world market shocks. International Food Policy Research Institute. <https://massp.ifpri.info/2025/01/07/malawi-systematic-analysis-of-climate-and-world-market-shocks/>
- Mukashov, A., Thomas, T. & Thurlow, J. Revisiting development strategy under climate uncertainty: case study of Malawi. *Climatic Change* 177, 91 (2024). <https://doi.org/10.1007/s10584-024-03733-2>
- Mulenga, R. (2024). Navigating global economic volatilities: towards economic resilience. *Journal of Economics, Finance and Management (JEFM)*, 3(1), 295-308.
- Nasir, M. A., Al-Emadi, A. A., Shahbaz, M., & Hammoudeh, S. (2019). Importance of oil shocks and the GCC macroeconomy: A structural VAR analysis. *Resources Policy*, 61, 166-179. <https://doi.org/10.1016/j.resourpol.2019.01.019>
- National Planning Commission. (2021). *Malawi Vision 2063*, Lilongwe, Malawi.
- Ngoma, H., Mulungu, K., Pangapanga-Phiri, I., Subakanya, M., Simutowe, E., Setimela, P., ... Chivasa, W. (2025). Smallholder farmers' willingness to pay for multi-stress tolerant varieties: evidence from experimental auctions in Southern Africa. *Climate and Development*, 1-19. <https://doi.org/10.1080/17565529.2025.2583385>
- Pangapanga-Phiri I, Makoka D, Jumbe C, Chilongo T, Phiri H, Kamkwamba H, Kalimbira A, Maonga B, Mtethiwa A, and Machila K. 2023. The 2023-24 El Nino: The Uncertainties and Opportunities for the 2023-24 Agricultural Season in Malawi. Policy Brief 2010010123. Center for Agricultural Research and Development, LUANAR, Lilongwe, Malawi.
- Pangapanga-Phiri, I., & Mungatana, E. D. (2021). Adoption of climate-smart agricultural practices and their influence on the technical efficiency of maize production under extreme weather events. *International Journal of Disaster Risk Reduction*, 61, 102322. <https://doi.org/10.1016/j.ijdr.2021.102322>
- Robinson, B., & Wakeford, J. (2013). Oil Shock Vulnerability of urban and rural households and by income groups, economy-wide impacts: Case Study of Malawi. United Kingdom Department for International Development June.
- Sabola, T. (2024). World Bank faults fuel pricing policies. *The Times Group*. <https://times.mw/world-bank-faults-fuel-pricing-policies/>