

Mitigation measures and Impact on Economy



Exchange of views on lessons learned and best practices on analysis
and assessment of positive and negative impacts of the

implementation of response measures

29-30 November, Madrid, Spain

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Maldives



Main driver of the Maldives economy

Tourist arrival

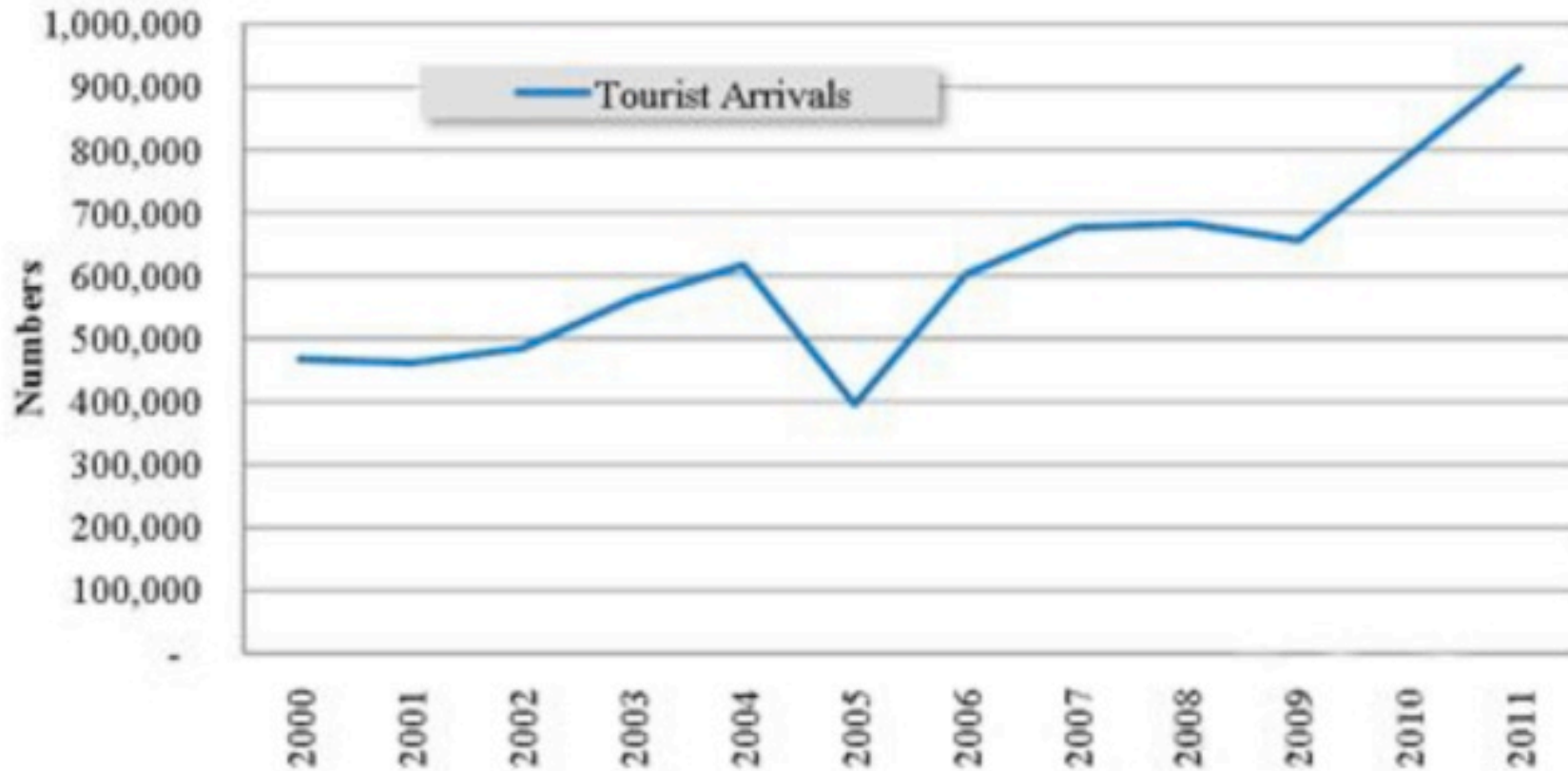
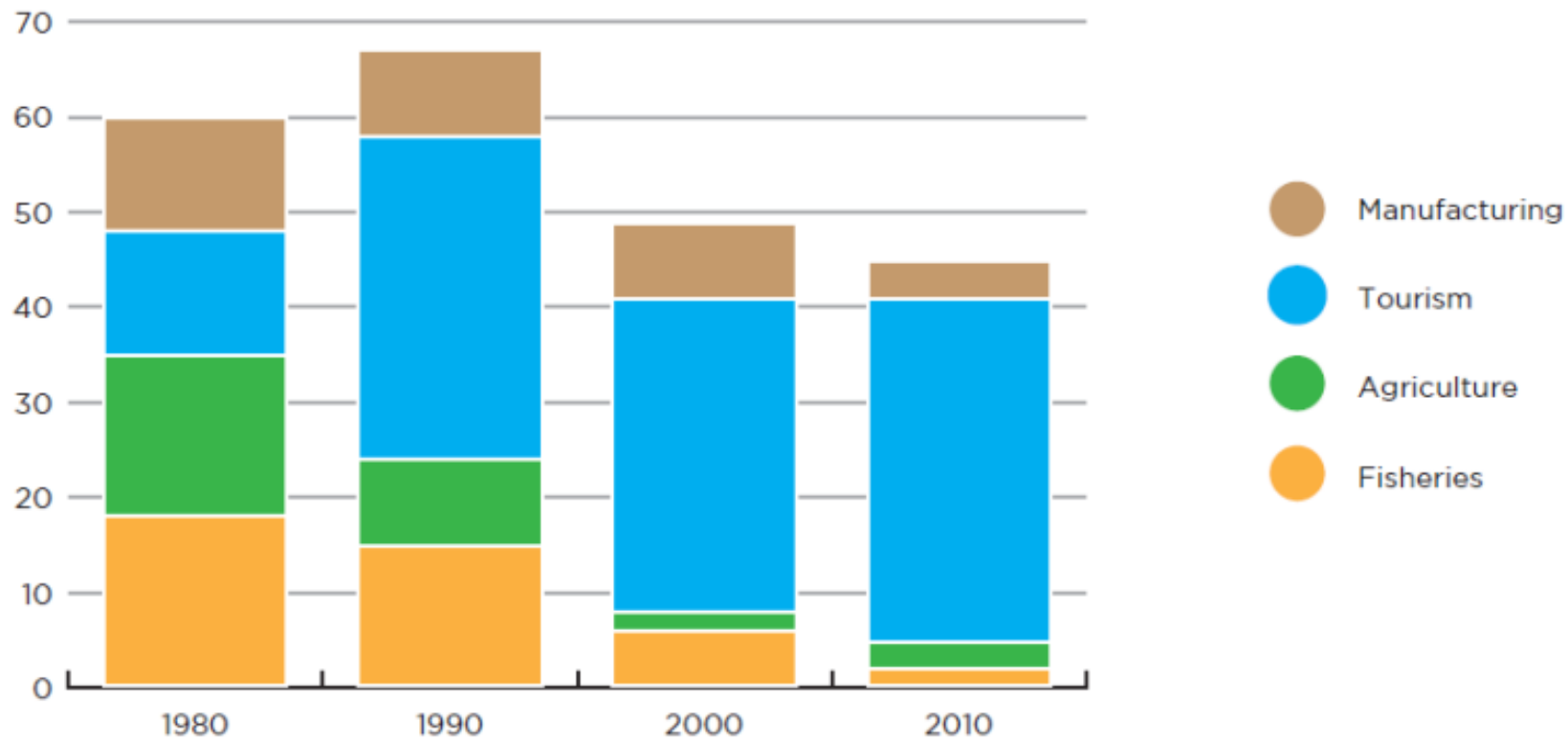


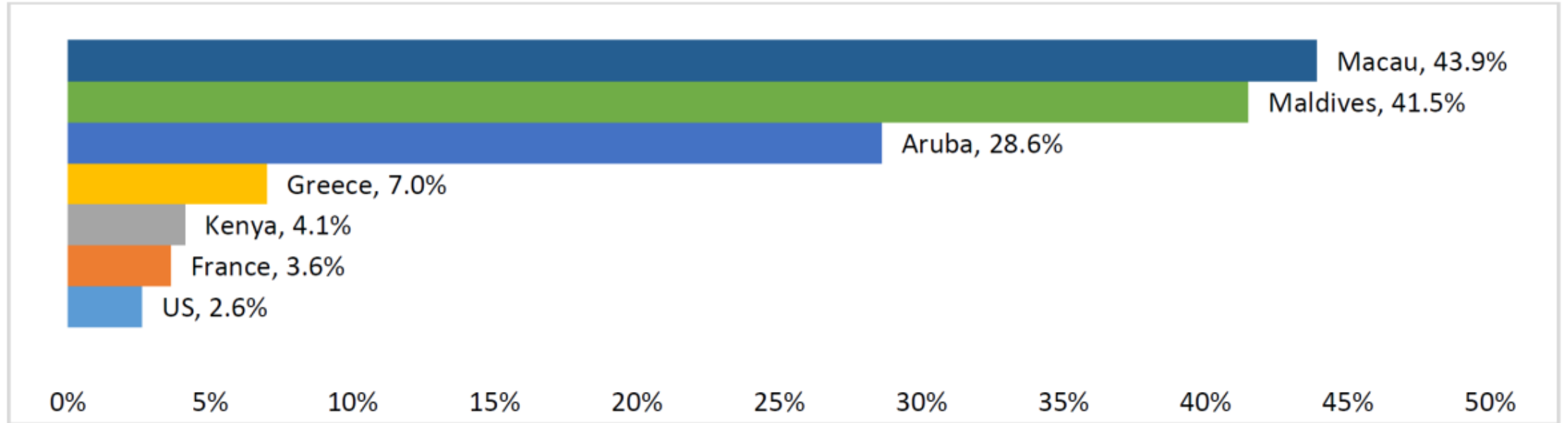
Figure 3: Trend of tourist arrival. Source (Ministry of Tourism, Arts and Culture 2012).

Change in percentage share of GDP by key sectors 1980-2010



- Narrow economic base
- Tourism dominating
- Over dependent now

Direct Contribution of Travel and Tourism to GDP



Data source: World Travel and Tourism Council, 2015.



Beach Bungulows

A wide-angle photograph of a tropical beach. The foreground is dominated by white sand with gentle ripples. The water is a clear, vibrant turquoise color. In the distance, a row of overwater bungalows with thatched roofs is visible on the right. The sky is a clear, deep blue. On the left, there is a line of green trees and palm trees. A small island is visible in the far distance.

Water bungalows



Beaches and crystal
clear waters

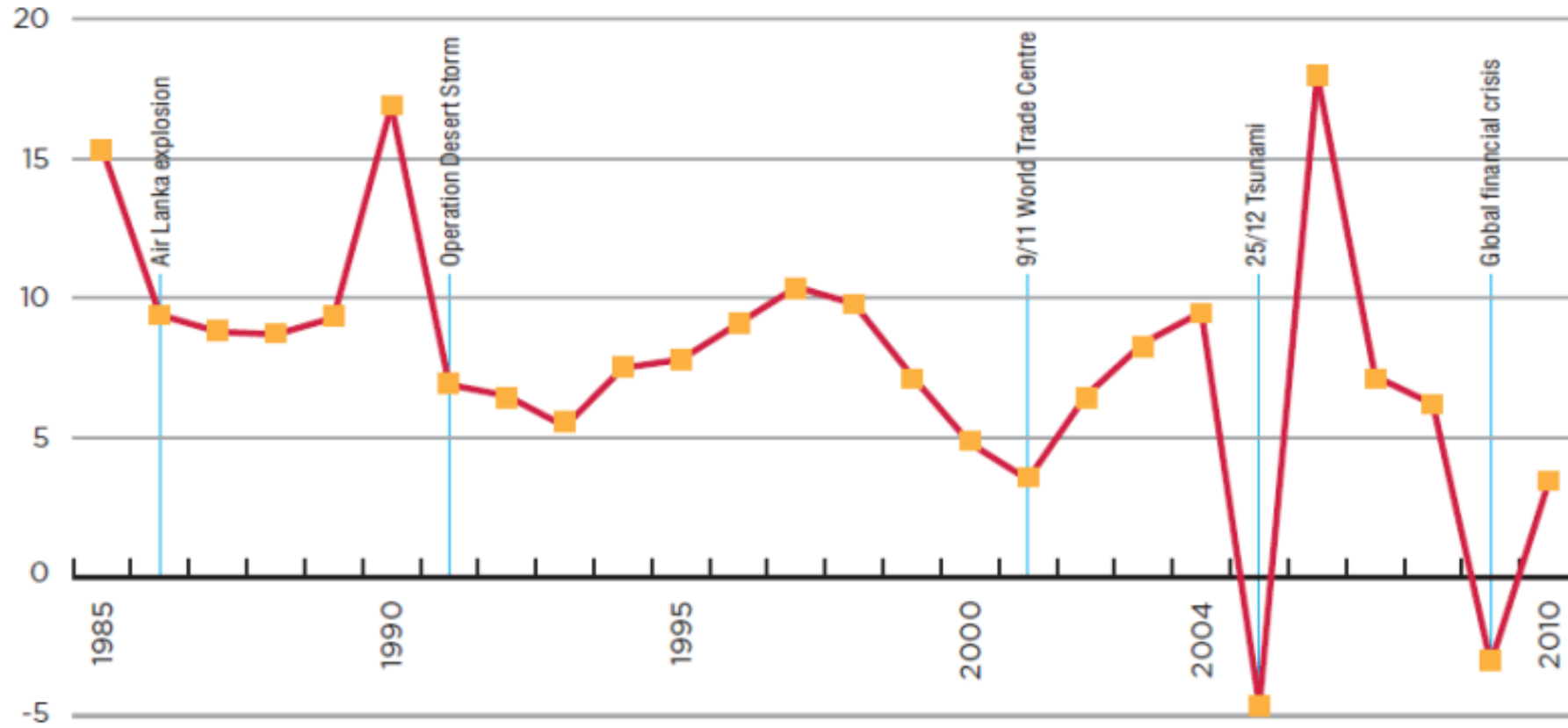
A photograph of an underwater restaurant. The scene is set within a large, dark, arched structure that appears to be part of a larger underwater facility. The water is a deep, clear blue, and the ceiling of the structure is illuminated from above, creating a bright, shimmering effect. In the center, a man in a black Adidas shirt stands near a woman in a light-colored dress. To the right, another woman in a purple top is seated at a table. In the foreground, a man in a striped shirt is seated at a table, looking towards the right. The tables are set with plates, glasses, and small decorative items. The overall atmosphere is serene and unique, offering a dining experience underwater.

Under water restaurants

A vibrant underwater scene featuring a scuba diver on the left, a large flat coral table in the center, and a diverse reef with various corals and fish on the right. The water is clear and blue, with sunlight filtering through from above. The diver is wearing a blue wetsuit and fins, swimming vertically. The coral reef is composed of various types of coral, including branching, table, and brain corals, in shades of green, yellow, and brown. Numerous small fish, including yellow tangs and other reef species, are swimming around the coral. The overall atmosphere is bright and lively.

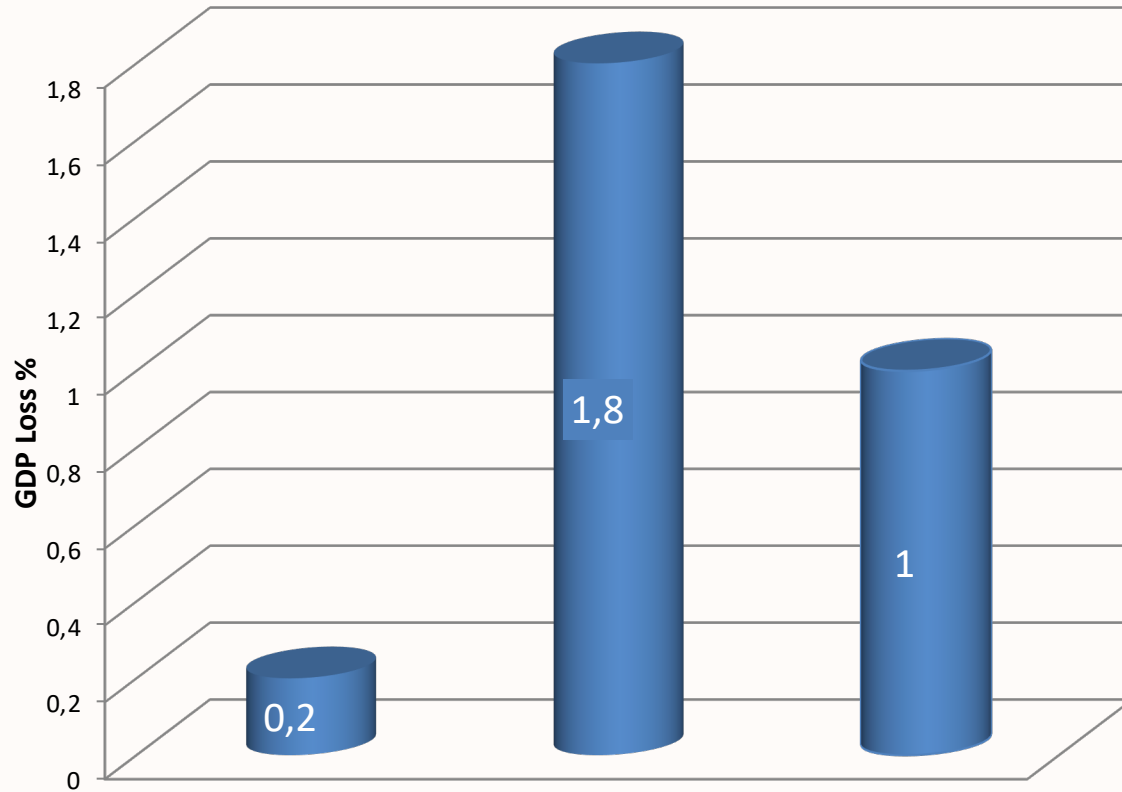
Under the water

Real GDP growth at 1995 constant prices 1985-2010



- Vulnerable to external shocks and natural disasters

GDP Losses



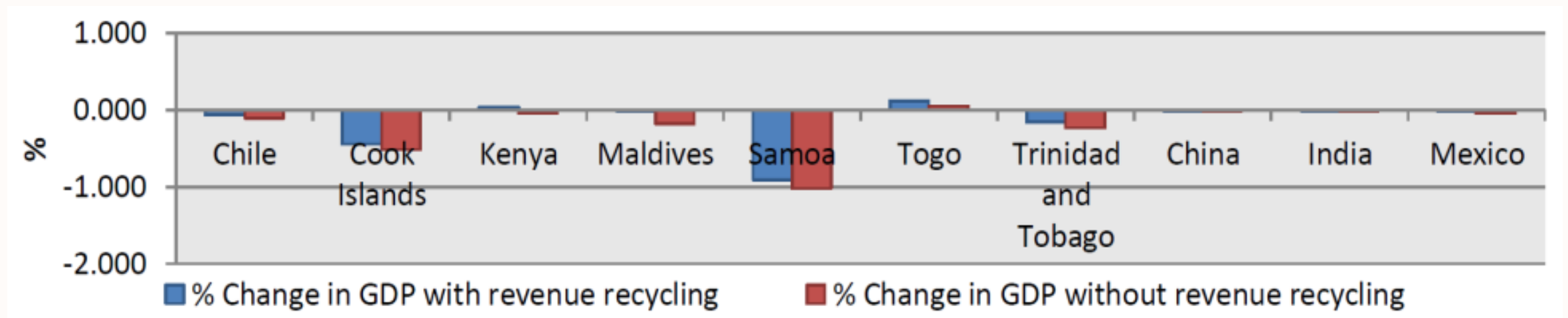
- The International center for Trade and Sustainable Development (ICTSD) 2010
- Study on trade implications of regulating emissions from international transport
- A levy of US\$ 15-30 per ton of CO₂ on international maritime causes GDP losses in the range 0.2-1.8 percent for Small Islands Developing states (SIDS) due to reduction of maritime trade between these countries and EU alone.
- GDP losses on SIDS will be tremendous

Modelling Assessments

- Assess impacts on developing countries of measures to address emissions in the international aviation and shipping sectors - by Climate Strategies, 2013
- Aimed: assesses the impacts of the proposed MBMs (Market Based Measures) on the international transport sectors, (ICAO & IMO) on the global economy and economies of selected developing countries. Impacts of five market-based measures – two for shipping, two for the aviation sectors and one unilateral policy
 - The International Fund for Greenhouse Gas emissions from ships (GHG Fund)
 - The Global Emission Trading System for International Shipping (GETS)
 - Global Mandatory Offsetting complemented by a Revenue Generation Mechanism (GMO)
 - Global Emissions Trading System for International Aviation (GETS)
 - European Union Emissions Trading System (EU ETS)
- Besides the European Union Emissions Trading System (EU ETS) for aviation, the proposals mentioned above have not been implemented and are still being developed. Therefore assumptions on MBM are used
- ICAO and IMO policies are based on equal treatment of all ships and aircraft, regardless of their nationality and despite nationally and regionally differentiated policies (e.g. on emissions or noise). In contrast, one of overarching principles of the UNFCCC, is that countries should act in accordance with their Common but Differentiated Responsibilities and respective capabilities,

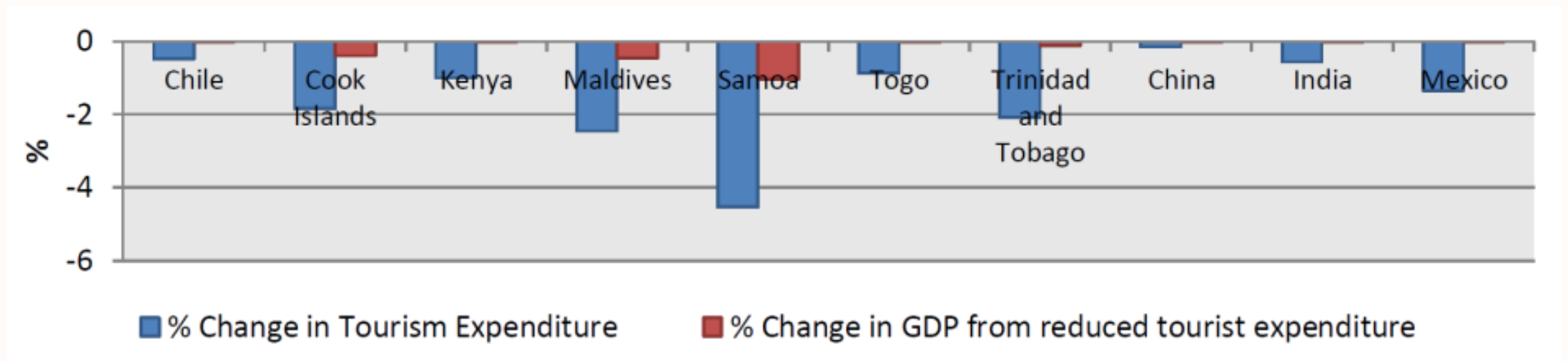
- MBMs will limit or reduce greenhouse gas emissions and consequently lower the costs of adapting to climate change
- MBMs will increase transport costs, which may cause an increase in import values and export costs, and a decrease in foreign tourism and associated receipts

“Countries with a higher dependency on tourism and trade are likely to experience greater economic impacts. Some of these countries are small island developing states that are also vulnerable to climate change impacts”.



Changes in GDP in 2025 due to a Global ETS for international shipping and aviation (100% auctioning, 100% cost pass through, \$30 (USD 2010) per tonne of CO₂, revenues used to reduce social security taxes, impacts of CDM receipts are not considered)

- By increasing the cost of emitting greenhouse gases, MBMs raise transport costs and are thus likely to impact on economies. The magnitude and direction of these impacts will depend on the trade and tourism intensity of an economy as well as on changes in relative prices due to carbon reduction policies
- The main factor influencing GDP reductions in small island states is the reduction in international tourist expenditure across these countries, driven by reduced numbers of tourists arriving by air in response to increases in flight costs and thus ticket prices



Changes in tourist expenditure and subsequent reductions in GDP due to the global emissions trading scheme for international aviation in 2025 (100% auctioning, 100% cost pass through and \$30 (2010\$) per tonne of CO₂)

What were the short-comes for Maldives

- It's a modelling assessment (relying on approximations and assumptions etc...)
- Are the approximations and assumptions representative of the actual conditions
- Modelling assessments needs to be validated
- At least for Maldives case, proxy data were used
- Limited involvement of the country specific related experts

What can KCI do about this

- Literature assessment or inventory of existing literature of similar assessment/ gap assessment
 - Comprehensive database or portal where this information could be made available
- Assessment of the impacts (country wise, sectors, regional etc ...)
- Use of real ground data to get a clear picture of magnitude of the impacts
- Proper use of economic modelling to assess and analyze the impacts on the national circumstances
 - fine tune the policies and strategies
- Transfer of knowledge and capacity building

