Steep island, high prices

Study into the causes of and solutions to the high cost of living on Saba

Final report

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Amsterdam Bureau for Economics
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Commissioned by:

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Executive summary

RETAIL PRICES ON SABA

Main supply chains

Most significant

Overseas wholesalers → Sint Maarten wholesalers → Saban retailers

Second-most significant

North American wholesalers → Transit on Sint Maarten → Saban retailers

Incidental

Puerto Rican wholesalers → Saban retailers

Recent and small initiatives

Local production

Price components and cost drivers

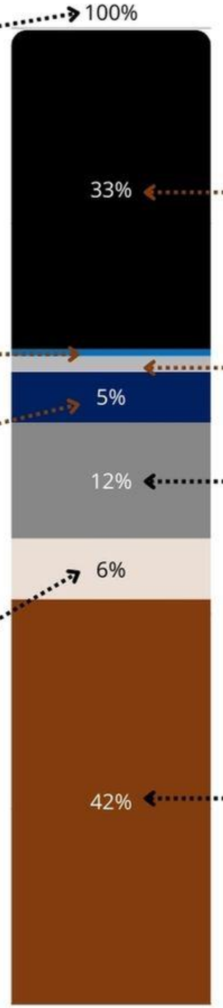
Retail price on Saba
- Prices 6% higher than Statia, 18% higher than Bonaire
- Supermarket prices roughly 30% higher than in Sint Maarten

Trucking (1%)
- Only small loads due to mountainous terrain

Transport to Saba
- Costly due to small vessels and low exports
- Competition is increasing

Transport to Sint Maarten
- Large distance from major markets (about 2,000 km to US)
- Little competition on the routes to Sint Maarten

Price components for supermarkets (in %)



Retail margin
- Small scale
- Recent wage increases
- Various retailers, but monopolies on some products

ABB and broker costs (2%)
- Customs as Saba imports from other jurisdictions
- Major cold chain breaks mainly for small businesses and individuals

Wholesaler margin St Maarten
- Various wholesalers on Sint Maarten
- Concerns about competition

Wholesale price overseas
- Goods mostly imported from the US and Europe
- Competitive wholesale markets in these countries

Key policy options

- Building a cooling and storage facility in the harbor
- Remove ABB on transport costs
- Enable cargo on the ferry from Sint Maarten
- Sell off-brand products
- Charge lower margins on basic goods

Prices on Saba are high compared to Sint Maarten, Sint Eustatius and Bonaire, which underscores concerns about the high cost of living
The price level on Saba is high. The general price level is 6 and 18 percent higher than on Sint Eustatius and Bonaire, respectively. Prices in supermarkets are 30 percent higher than on Sint Maarten. The price level has risen sharply in the past years: from 2010 to 2023, inflation on Saba was 34.5 percent in general, and even 52.5 percent for food products and non-alcoholic beverages. The high prices on Saba underscore concerns about the high cost of living on the island.

Many of the causes of high prices on Saba are exogenous and cannot be addressed
There are several explanations why the prices on Saba are higher than on the other islands or on the mainland. Many major cost drivers cannot be remedied. Some of the cost drivers are listed below.

- Small scale: Because Saba is a small market, it is difficult for retailers to exert power over wholesalers and the intensity of competition is lower than in larger markets.
- Mountainous terrain: The mountainous terrain contributes to high costs as well. For example, the steep and winding roads makes transport in large trucks unfeasible. The steep terrain also limits the availability of plots for storage and agriculture.
- Remoteness from major markets: The distances (as the crow flies) between Saba and Colombia (more than 1,000 km), the United States (US) (2,000 km) and Europe (almost 6,000 km) are large.
- High wages: Wages on Saba are high. Not only has the minimum wage almost tripled, but average wages are high as well.
- Small cargo harbor: Only small ships can dock in the cargo port.
- Empty containers: Because Saba imports more than it exports, many cargo containers return empty to the place of origin.
- Different jurisdiction from suppliers: Since Saba's most important suppliers are in different jurisdictions, customs clearance has to take place for imports.

Retailers purchase most of their supply in Sint Maarten, Florida and Puerto Rico
The supply chains of most products on Saba can be divided into three categories.

The first supply chain starts at an exporting company, usually in North America or Europe. In most cases, goods are imported by Sint Maarten wholesalers and shipped to Sint Maarten. Saban retailers order these items at the Sint Maarten wholesalers, after which they are shipped to the harbor of Saba and trucked to the supermarkets. Most supermarkets rely on this supply chain. Hardware stores only make limited use of this route.

In the second supply chain, Saban retailers order goods directly in Florida in the US. These are then shipped to Sint Maarten for transit and subsequently shipped to Saba. This route is mostly used by hardware stores and occasionally by supermarkets.

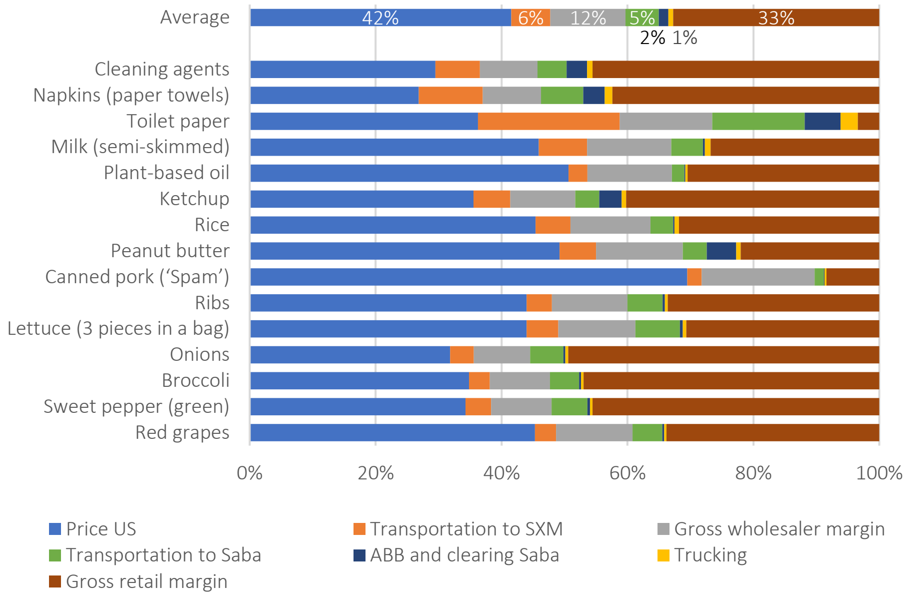
In the third supply chain, goods are purchased in Puerto Rico. A small vessel then carries these products directly from Puerto Rico to Saba. This option is occasionally used by hardware stores and supermarkets.

Although a few goods are locally produced, local production does not yet play a major role.

For most goods, Sint Maarten plays a crucial role in the supply chain. This is not surprising: Sint Maarten is home to one of the largest ports in the region and is meanwhile one of the islands closest to Saba.

The figure below shows the approximate price components of products in Saban supermarkets.

Figure 1 The largest components of prices on Saba are the price in the US and the retail margin on Saba. Percentages do not add up to 100 percent due to rounding differences.



Bron: Amsterdam Bureau for Economics (2024).

The biggest challenges in the cold chain to Saba are the interruptions during handling activities and transport on Saba as well as the long journey to Saba

The term 'cold chain' refers to a temperature-controlled supply chain to maintain and preserve perishable products. The cold chain is mainly interrupted during handling and loading activities and during the transport from the harbor to the retail store on Saba. For individuals and small businesses, the cold chain is often interrupted as well when cargo is stored on the dock on Saba. Another challenge in the cold chain to Saba is the duration of the transport between countries of origin and Saba. The journey from Florida to Saba lasts at least seven days and the journey from Rotterdam to Saba takes sixteen days.

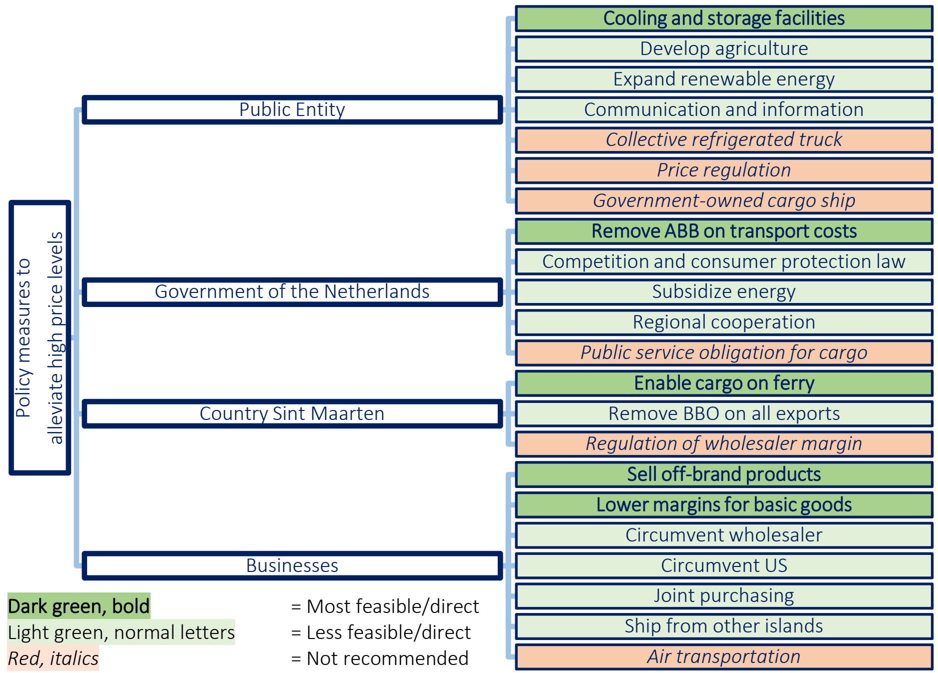
The wholesaler markets in Europe and North America are competitive, there is some degree of competition on the other relevant markets

The links in the supply chain are characterized by varying degrees of competition:

- Wholesaler markets overseas competitive: The European and North American wholesaler markets are considered competitive.
- Little competition in transport to Sint Maarten: The competition on the routes from Florida and Europe to Sint Maarten is limited and decreasing: there are only three major container lines operating these routes, one of which will stop sailing directly to Sint Maarten.
- Sint Maarten wholesalers not uniform, still concerns about competition: There is competition among wholesalers in Sint Maarten to the extent that that retailers in Saba can compare wholesalers in Sint Maarten and buy from the wholesaler with the best price. Still, there are concerns about the degree of competition on the Sint Maarten wholesaler market.
- Competition in transport to Saba is increasing: Since 2023, there are three cargo lines that sail to Saba on a weekly basis. Two of the cargo lines carry refrigerated cargo. Although the third line is able to carry full refrigerated containers, it does not yet carry refrigerated cargo to Saba.
- Relatively many retailers, monopolies on certain goods: There are four supermarkets and two to three hardware stores on Saba. Relative to the size of Saba's markets, these numbers are high. Retailers' prices, offerings and services vary, allowing consumers to compare between different stores. Some stores are the sole suppliers of certain products.

Five policy options are considered to have the most direct influence on prices and to be the most feasible

Figure 2 Five policy options are the most feasible and/or direct: to create cooling and storage facilities, to remove ABB on transport costs, to enable cargo on the ferry to Sint Maarten, to sell off-brand products and to have lower margins on basic goods.



Source: Amsterdam Bureau for Economics (2024).

The figure above displays the policy options that have been identified to reduce or control retail prices on Saba. There are five recommended options (dark green and in bold in the figure):

- Cooling and storage facilities: A cooling and storage facility in the harbor will help protect the cool chain for individuals and small businesses importing refrigerated cargo. This may enhance competition by creating alternatives for consumers. A larger storage facility can be used to store large quantities of both dry and chilled goods, so that retailers can buy in bulk and realize economies of scale.
- Remove ABB on transport costs: Currently, expenditure tax (ABB) is paid on both the wholesale price and the freight costs. The Ministry of Finance is recommended to investigate whether it is feasible to exempt freight costs from ABB.
- Enable cargo on ferry: Currently, passengers on the ferry from Sint Maarten cannot carry more cargo than fits in their suitcases. This is caused by a customs issue in Sint Maarten. If passengers are allowed to carry cargo on the ferry, this will provide them with alternatives to retail shopping, which may enhance competition.
- Sell off-brand products: Off-brand products are often significantly cheaper than name-brand items. Buying and selling off-brand products is therefore a straightforward way to reduce the cost of living. Off-brand products are already available at Sint Maarten wholesalers and certain Saban retailers already sell them.
- Lower margins for basic goods: Some supermarkets cross-subsidize basic goods by charging lower margins on basic goods than on non-basic and luxury goods. If implemented effectively, this strategy will help households meet their basic needs.

Other policy options in the figure could be useful but are considered unfeasible or indirect (light green, normal letters) or are not recommended (in red, in italics).

Table of contents

1. Introduction

This report sheds light on the causes of high prices of food and other goods on Saba. Saba is the island in the Caribbean Netherlands with the highest price level, even though other small islands are facing the same difficulties. When the causes of these elevated prices are established, the report does recommendations on how to lower the cost of living on the island, and provides a prioritization of these recommendations for the relevant stakeholders.

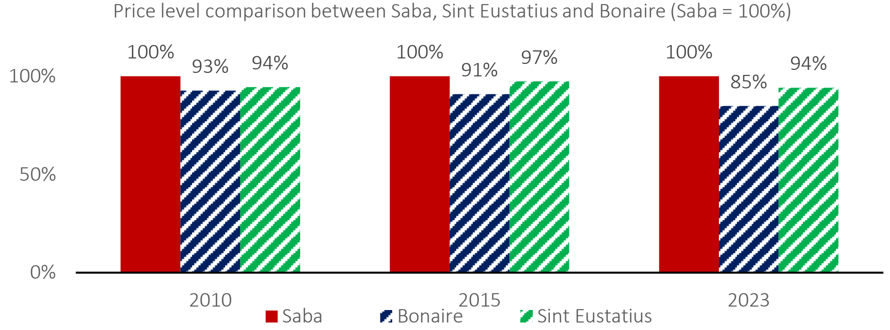
Introduction and context

In 2023, the general price level on Saba was 18 percent higher than on Bonaire and more than 6 percent higher than on Sint Eustatius.[1] Food (including non-alcoholic beverages) is particularly expensive on Saba: 29 percent more expensive than on Bonaire and 15 percent more expensive than on Sint Eustatius. Prices in the category 'water, energy, repairs and maintenance' are notably higher as well.

Prices on Sint Eustatius are approximately 6 percent lower than on Saba

Periodically, Statistics Netherlands (CBS) conducts studies in the Caribbean Netherlands to determine the price levels on Bonaire, Saba and Sint Eustatius relative to each other. In 2023, CBS conducted its most recent research and concluded that, similar to previous results, Saba remained the island with the highest price levels.

Figure 3 Price levels in 2023 on Sint Eustatius and Bonaire for the selected categories are below those on Saba. The price level is displayed as a percentage of the price level on Saba (Saba = 100%).

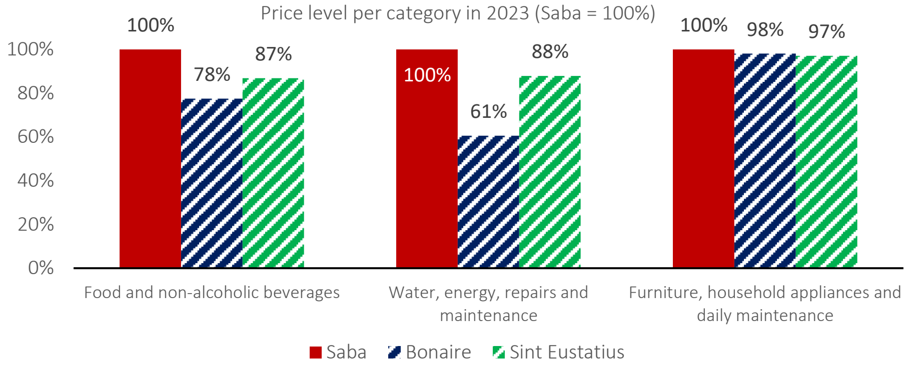


Source: Amsterdam Bureau for Economics (2024) based on CBS (2023).

- **Highest price levels on Saba:** Compared to Sint Eustatius (and Bonaire) Saba is the most expensive island. In 2023, the price level on Sint Eustatius was 6 percent below Saba and prices on Bonaire were 15 percent lower.
- **Price gap between Saba and Bonaire more than doubled:** The discrepancy in the price levels of Saba and Bonaire more than doubled; from 7 percent in 2010 to 15 percent in 2023.

Price levels in most categories are significantly lower on Sint Eustatius than on Saba

Figure 4 Price levels in 2023 on Sint Eustatius and Bonaire for the selected categories are below those on Saba. The price level is displayed as a percentage of the price level on Saba (Saba = 100%).



Source: Amsterdam Bureau for Economics (2024) based on CBS (2023).

- **Relatively large differences in prices for food and non-alcoholic beverages and for water, energy, repairs and maintenance:** Prices for food and non-alcoholic beverages are 13 percent lower on Sint Eustatius than on Saba, and 22 percent lower on Bonaire. The price difference for the category water, energy, repairs and maintenance between Saba and Sint Eustatius is almost similar with 12 percent. Between Bonaire and Saba there is a noticeably larger difference, products that fall under this category cost almost 40 percent less on Bonaire than on Saba.
- **Prices for furnishing, household appliances and daily maintenance differ only marginally:** Between the three islands in the Caribbean Netherlands, the differences between the price levels for products in the category furnishing,

household appliances and daily maintenance are quite small. Saba is the most expensive country, followed by Bonaire, which is 2 percent cheaper in this category. Sint Eustatius is the cheapest, featuring a price level 3 percent below that on Saba. However, a part of the reason for the small differences is that CBS assumes that a number of products in this category have the same price on all three islands.

High prices cause concerns about the cost of living

Since 2010, the cost of living has risen sharply which has resulted in concerns about the purchasing power of the citizens of Saba.[2] Especially perishable foods like fresh fruits, vegetables, and dairy often suffer from poor quality and limited availability. This exacerbates food accessibility issues, particularly to the most vulnerable households.[3]

In 2023, the *Commissie sociaal minimum Caribisch Nederland* (Commissie Thodé) provided advice on offering more livelihood security to residents of the Caribbean Netherlands. This advice was based on research reports from Nibud and Amsterdam Bureau for Economics (EBA). Nibud calculated the necessary expenses for Bonaire, Sint Eustatius, and Saba and confirmed that, among other things, food costs are the highest on Saba. The report prepared by EBA concluded on several options to increase purchasing power and reduce the cost of living.

Saba lacks economies of scale and faces rising levels of imports

Saba's imports have increased markedly over the past ten years.[*] However, Saba is geographically, demographically, and economically smaller than Bonaire, Sint Eustatius and many other Caribbean countries and territories. As a result, Saba faces more diseconomies of scale than other islands. These diseconomies of scale influence the prices of groceries, as fixed costs must be recovered over a limited sales volume, there is limited scope for effective competition, and the market is often too small for local production facilities.

Within this context, EBA investigates the causes behind the high price levels of food and other goods on Saba and reviews which policies, regulations or other measures can be taken to effectively control price levels.

Objectives, approach and structure of the report

A threefold of objectives shape the course of this study: (1) to gain insight in the causes behind the high costs of food and other goods on Saba; (2) to gain insight into potential policies and measures to reduce or control costs and price levels; and (3) to make prioritized recommendations as to which effective measures can realistically be taken in the short- and long-term taking the implementation capacity of the public entity Saba into account. This study exclusively focuses on ways to decrease or control prices. Policies to increase purchasing power by raising incomes on Saba are important as well, but are outside the scope of this study.

This report consists of four chapters. In the second chapter, the socio-economic context of this study is laid out. This includes an analysis of the wages, price level and the population on Saba. Chapter three provides a detailed analysis of the price components of various categories of goods on the island. This chapter also contains an analysis on the way the supply chain and competition may affect prices. The report is concluded in chapter four, where policy options are provided based on the analysis in the prior chapters. These recommendations include measures that can be taken by the public entity of Saba, but also by the government of the Netherlands, Sint Maarten and by private companies offering goods on the island.

[*] The import value as a percentage of Saba's GDP increased from 34 percent in 2012 to 45 percent in 2019 and 49 percent in 2021 (source: CBS).

2. Contextual framework

Saba is located in the northeastern part of the Caribbean sea and is a small, mountainous island. Saba has a relatively stable population of around two thousand inhabitants, that live in different villages. Saba's most significant sectors in terms of jobs are the public sector, educational sector and health care sector.

In 2010, Saba became a special municipality (public entity) of the Netherlands. Since then, prices increased more than Saba's nominal GDP. Inflation was particularly severe for food products. Wages kept up with rising prices, partly as the minimum wage has increased sharply.

Geographical context

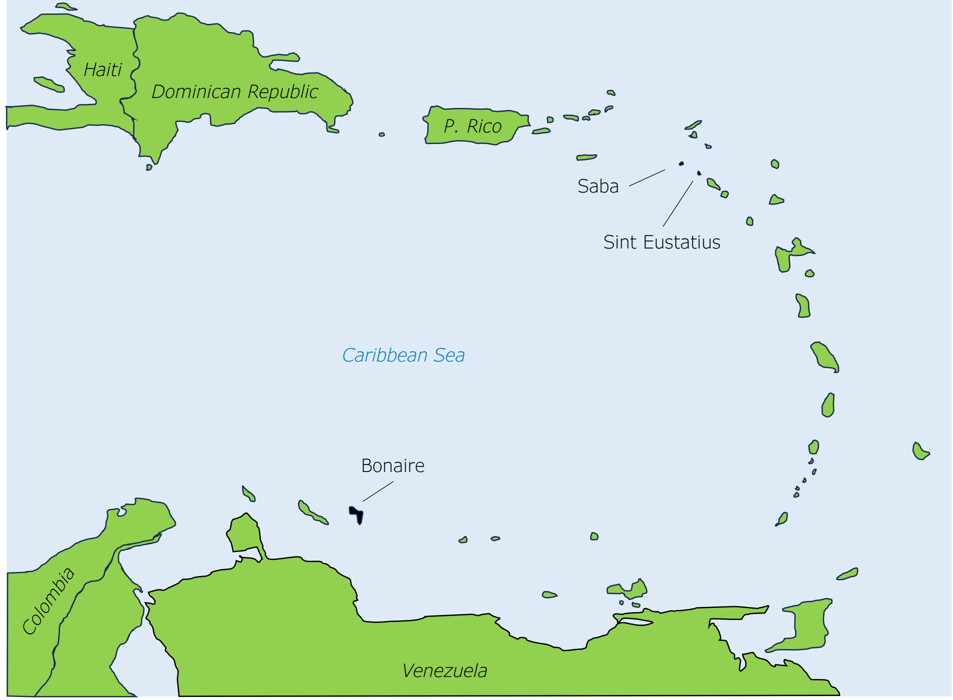
The islands in the Dutch Caribbean exhibit sizeable differences. There is a north-eastern group consisting of Saba, Sint Maarten and Sint Eustatius (SSS islands) and a southwestern group near the coast of Venezuela consisting of Aruba, Bonaire and Curaçao (ABC islands). The SSS islands are geographically smaller than the ABC islands and their populations are on average smaller as well. For example, Saba (2,060 inhabitants, 13 km²) and Sint Eustatius (3,204 inhabitants, 21 km²) are both significantly smaller than Bonaire (25,133 inhabitants, 288 km²).[4]

On October 10, 2010, the country Netherlands Antilles was dissolved. From 1986 to 2010, this country had consisted of Curaçao, Sint Maarten, Bonaire, Saba and Sint Eustatius. Curaçao and Sint Maarten became autonomous countries within the Kingdom of the Netherlands, whereas Bonaire, Sint Eustatius, and Saba became special municipalities (public entities) of (the country) the Netherlands.

Saba is characterized by its volcanic peak rising from the sea, encompassing an area of 13 km² with a diameter of roughly 4.5 km. The island lacks flat terrain, except for the airport, and is largely covered by tropical rainforest, leaving little room for construction and agriculture. Saba has a tropical climate with a wet season occurring in late summer and autumn.

Although Saba and Sint Eustatius are relatively similar in terms of location and size, there are noticeable differences between the islands that may be of relevance. For instance, whereas on Sint Eustatius the population is mostly concentrated in the capital Oranjestad, the population on Saba is scattered across four small towns. The island, despite its size, does not facilitate transportation well due to its rocky environment, leading to additional transportation costs for food and other goods.

Figure 5 Saba is situated in the northeastern part of the Caribbean Sea.



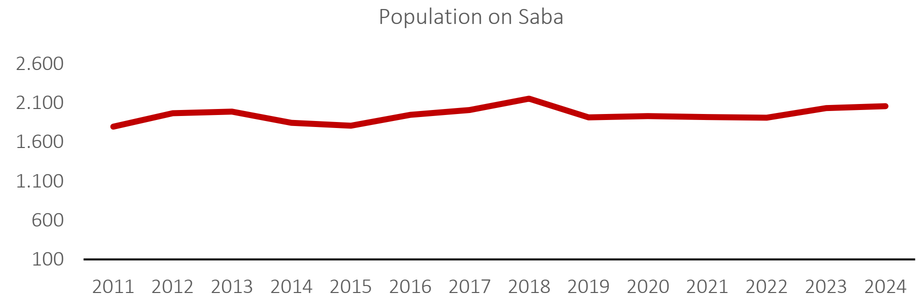
Source: Amsterdam Bureau for Economics (2024).

Demography and economy

Population of Saba has grown mildly since 2011, but real GDP declined

Between 2011 and 2024 the Saban population increased from 1,797 to 2,060 people. Over the past decade and a half, Saba's population fluctuated mildly; in 2019 the population declined with over 200 people, whereas later years have seen an increase in the population.

Figure 6 Saba does not feature significant population growth.



Source: Amsterdam Bureau for Economics (2024) based on CBS (2024).

The economy of Saba has shown an unfavorable development since 2012. Saba's real GDP (both in total and per capita) was slightly lower in 2022 than in 2012 (see Table 12 in Appendix A). The Saba University School of Medicine significantly contributes to the local economy. The island attracts tourists as well.

Since education, health or public administration are significant sectors on Saba, wages are higher than on Bonaire and Sint Eustatius

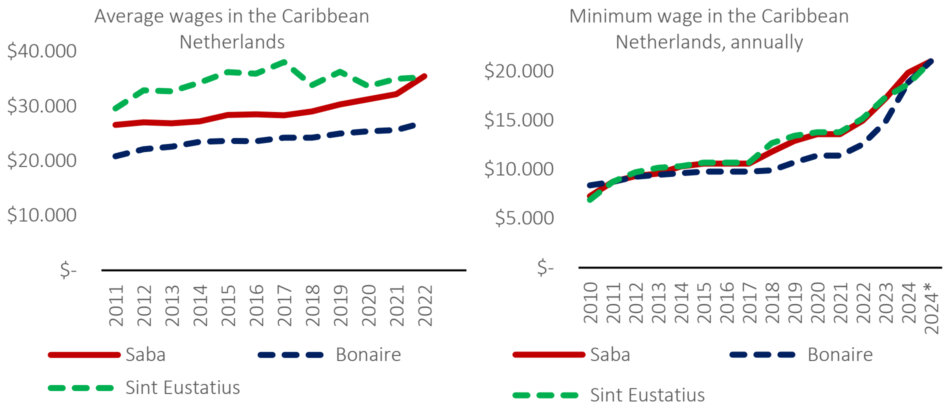
Most people on Saba either work in education, health or public administration. Public administration is Saba's largest sector in terms of jobs (see Figures 20 and 22 in Appendix A). The education, health and public sectors are more prominent on Saba than on Sint Eustatius and Bonaire. Other significant sectors are construction as well as wholesale and retail trade.

Because of Saba's sectoral composition, average wages on Saba are similar to those on Sint Eustatius and higher than those on Bonaire: the public, health and education sectors, which are relatively well-paying sectors on all three islands, employ a larger share of the employed population than on Bonaire and Sint Eustatius.

Average wages on Saba increased by one-third in eleven years, whereas the minimum wage almost tripled since 2010

Average wages have increased on Saba since 2011 and are currently the highest in the Caribbean Netherlands (see the figure below). The minimum wage increased by 189 percent since 2010.

Figure 7 Average wages have increased by 33 percent between 2011 and 2022 (left). The minimum wage dynamics in the Caribbean Netherlands are characterized by a rapid increase over the last few years (right).



Source: Amsterdam Bureau for Economics (2024) based on Wet minimumloon BES (2010-2024) and CBS (2024).

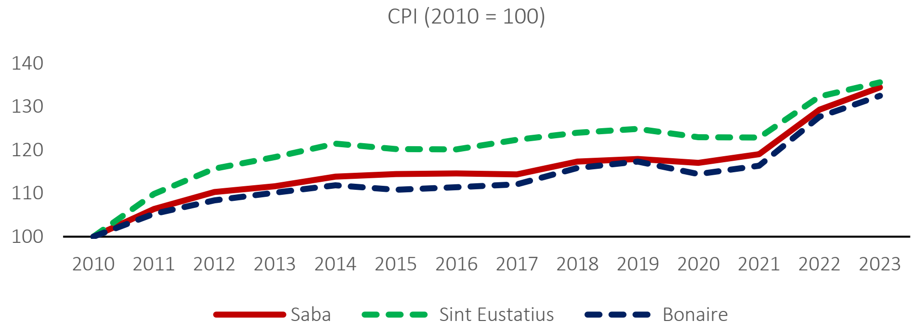
- **Steady wage increase**: Between 2011 and 2022, average wages on Saba increased by 33.5 percent. As a result, wages on Saba were the highest in the Caribbean Netherlands in 2022. The purchasing power of the average wage has increased in that period, as prices rose by 21.5 percent between 2011 and 2022.
- **Minimum wage increased rapidly**: Between 2010 and 2024, the minimum wage on Saba increased rapidly. In 2010, the minimum wage was set at

approximately $ 7,280 annually, whereas it increased to $ 21,008 annually as of July 2024. To compensate the most recent increases, employer contributions have been reduced by 1.5 percentage points in 2024,[5] and a further reduction of 1.6 percentage points is planned for 2025.[6]

Inflation

Price levels on Saba have increased markedly, especially over the past two years
The general price level increased by 34.5 percent between 2010 and 2023. Sint Eustatius and Bonaire witnessed similar price increases.

Figure 8 Prices on Saba increased by 34.5 percent between 2010 and 2023.

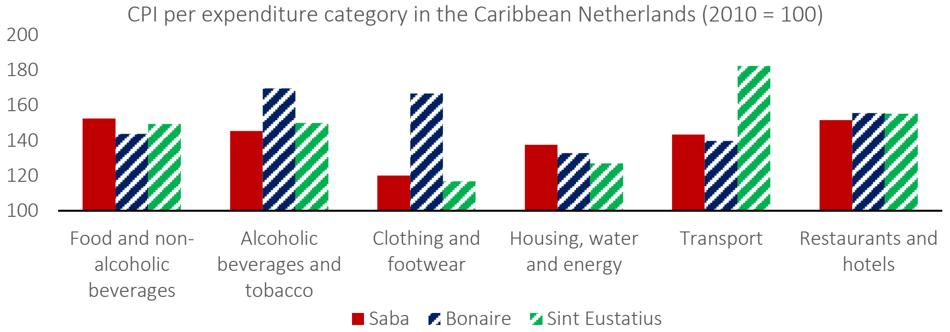


Source: Amsterdam Bureau for Economics (2024) based on CBS (2024).

- Prices increased by 34.5 percent since 2010: Price increases on Saba between 2010 and 2023 (34.5 percent) are similar to those on Bonaire (35.6 percent) and Sint Eustatius (32.5 percent).
- High inflation in 2011 and 2022 for Saba, deflation in 2020: Inflation was relatively high in 2011 (6.4 percent) and 2022 (8.6 percent). During the years in between, however, the inflation rate fluctuated somewhere between zero and two percent. In 2020 Saba experienced some mild deflation (0.7 percent) due to the Covid-19 crisis.

Price increases are highest for the food category
Price increase on Saba were particularly high in the food and non-alcoholic beverages and in the restaurants and hotels categories. The inflation in some expenditure categories are more volatile than in others (see Figure 23 in Appendix A).

Figure 9 The highest price increases over the past thirteen years on Saba took place in the categories food and non-alcoholic beverages, alcoholic beverages and tobacco, and restaurants and hotels.



Source: Amsterdam Bureau for Economics (2024) based on CBS (2024).

- Inflation in the food and non-alcoholic beverages category highest on Saba: Food prices on Saba over the past thirteen years increased by 52.5 percent. This is a high increase compared to the other islands (44 percent for Bonaire and 49 percent for Sint Eustatius).
- Relatively high inflation of alcohol and tobacco as well as restaurants and hotels: Other expenditure categories with relatively high price increases on Saba are alcoholic beverages and tobacco (45.4 percent) and restaurants and hotels (51.5 percent). The inflation on Bonaire and Sint Eustatius was even higher in these expenditure categories.

3. Price structure

Retail food prices consist of the wholesaler price in the origin country (around 42 percent), the retail margin (33 percent), the wholesale margin on Sint Maarten (12 percent), transportation costs (11 percent), ABB and clearing fees (2 percent) and trucking on Saba (1 percent).

Saba relies on import from other countries for almost all goods, which supermarkets mostly purchase from wholesalers in Sint Maarten and hardware stores mostly purchase in the US. Sint Maarten is one of the largest ports in the vicinity of Saba and imports most of its goods from the United States and Europe. Food production on Saba is increasing in importance, but is still in the early stages of development.

The long journey of many goods and the many handling activities in the supply chain not only affect prices, but also affect the quality of perishable goods. Moreover, several parts of the supply chain of certain product categories are dominated by companies with dominant market positions.

Products of interest

The products of interest for this study are listed in the right-most column of the table below.

Table 1 Each product in the shopping list fits into one of the CBS product categories for which price levels have been measured.

Product category	Category description (CBS)	Products of interest
Food and non-alcoholic beverages	Bread and grain products, meat, fish, dairy, fruit, vegetables, sugar, sweets, spices and ready-made meals. Coffee, tea, mineral water, soft drinks, fruit and vegetable juices.	**Fresh (fruit and vegetables)** • Red grapes • Broccoli • Bananas • Onions • Sweet pepper • Lettuce **Frozen (meat)** • Chicken fillet • Ribs • Drumsticks • Minced meat • Chicken wings **Long shelf life** • Canned pork • Ketchup • Peanut butter • Plant-based oil • Rice • Milk
Water, energy, repairs and maintenance	DIY materials, water supply, electricity and gas.	• Cement • Concrete blocks • Construction screws • Steel • Wood
Furniture, household appliances and daily maintenance	Furniture and furnishings, floor coverings, household textiles, household appliances, tableware, tools for home and garden, cleaning and maintenance products.	• Toilet paper • Dishwashing detergent • Napkins • Cleaning agents • Garbage bags

Source: Amsterdam Bureau for Economics (2024) based on CBS (2023).

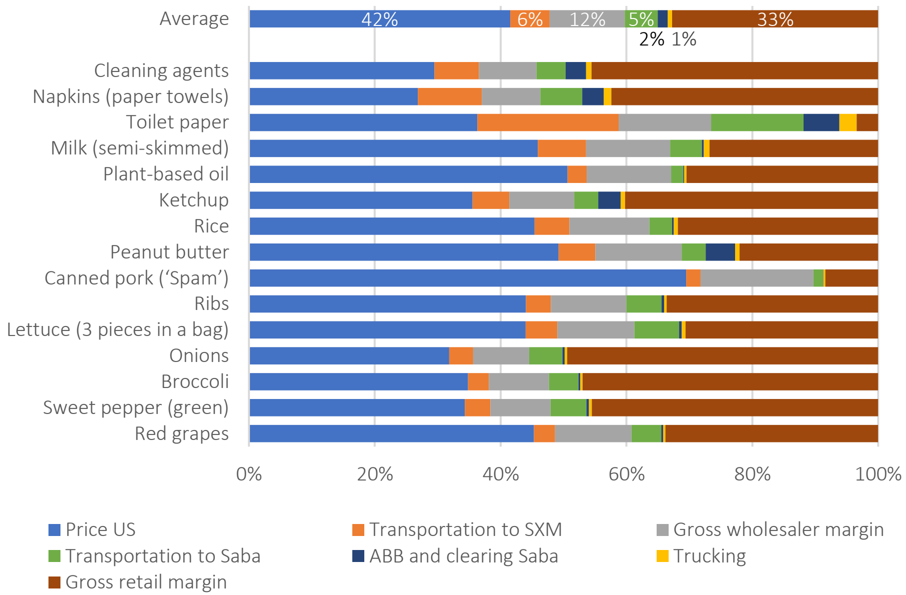
Components of prices

The most significant price components are the retail margin and the wholesale price in the country of origin

Figure 10 shows the components of retail prices of the fifteen products of interest (see the table above) for which sufficient data was available to carry out the analysis.

The goods are assumed to have been purchased at wholesalers in Sint Maarten which have imported them from the United States (US). The components are based on the sources and assumptions in the text below. On average, about 42 percent of the price the Saban consumer pays consists of the purchasing price in the US. About 12 percent consists of transportation costs to Sint Maarten, to Saba and to the store. The wholesaler margin is about 12 percent of the retail price, and the retail margin approximately 33 percent. ABB and clearing fees amount to about 2 percent combined.

Figure 10 The largest components of the retail prices of groceries are the wholesale price in the US and the retail margin on Saba. Percentages do not add up to 100 percent due to rounding differences.



Source: Amsterdam Bureau for Economics (2024), based on the sources in the description below.

- Wholesaler price in Sint Maarten based on websites and invoices: The wholesaler prices in Sint Maarten are based on (archived versions of) the websites of Prime Distributors and Divico as well as on invoices of Prime Distributors and H&R Supply. Details of the calculation are in Appendix A. Wholesalers arrange the transportation to the port as well. Wholesale prices consist of the following components:
  - Purchasing price not observed (overseas): The price paid to wholesalers in the US is unknown, as the websites of many wholesalers do not publish prices. The purchasing price in the US is thus the result of the other components of the calculation. To test the outcomes, prices of a sample of the products of interest were compared between the websites of Divico (Sint Maarten) and Sam's Club (US).[*] For this sample, prices in Sint Maarten were about 45 percent higher. This is consistent with the ratio between Sint Maarten wholesale prices (60 percent of the retail price) and US wholesale prices (42 percent) in Figure 10.
  - No US sales tax: The country of origin typically does not levy taxes on the imported goods. Chapter 212 of the Florida Statutes provides an exemption from sales tax for exports.[7] When products are imported from the European Netherlands, no value-added tax (btw) has to be paid.
  - Transportation costs based on rates Tropical: The interregional transportation costs are based on the website of Tropical Shipping ($ 3,307 for a 40-ft container or $ 3,597 when it is refrigerated) and the assumption that 1,200 boxes fit in a 40-ft container.
  - No import duties: Contrary to other countries in the region, Sint Maarten does not collect import duties, except for a tax on unleaded gasoline.[8]
  - Margin wholesaler based on past research: The margin of the wholesalers is assumed to be 20 percent of the wholesaler price. This is based on the estimated margin for Sint Maarten wholesalers of 15-25 percent in a report from 2017.[9] Moreover, the wholesaler margins for regulated products are 15 or 20 percent on Sint Maarten.[10] The gross margin is assumed to include costs such as customs clearance and handling fees. In the European Netherlands, the gross margin for wholesalers in 2022 was 18 percent of revenue and the net margin was 6 percent.[11]

    The wholesaler margin also includes Sint Maarten taxes, such as a 5-percent turnover tax, profit tax, and employer premiums, among others. Turnover on certain food products is exempt (Art. 8, section 17, *Landsverordening belasting op bedrijfsomzetten*[12]).[†] There is an exemption for exported goods as well, but this exemption only applies to companies that generate the majority of their turnover from exports (Art. 9).
- Transportation to Saba based on rates Mutty's Pride: Transportation from Sint Maarten to Saba is assumed to cost $ 1.80 a cubic foot for dry goods and $ 4.20 for chilled and frozen goods. This is based on the rates that supermarkets pay for the Mutty's Pride: $ 3.50 for chilled and frozen goods, $ 1.50 for dry packages, plus in both cases a 20-percent bunker surcharge. Other fees (documentation and insurance) only make up a minor part of the total costs for large orders. Various stakeholders indicated that not all clients get flat fees. Smaller clients reportedly pay based on to the order's value.

[*] The products that were compared are rice (Member's Mark Thai Jasmine Rice, 25lbs), Ketchup (Heinz, three times 44 oz), plant-based oil (Member's Mark Vegetable Oil, 192 oz), toilet paper (Scott 1100 1-Ply Toilet Paper 36 rolls) and dish liquid (Dawn Platinum Dishwashing Liquid Dish Soap, Refreshing Rain 90 fl. oz.). Divico and Sam's Club did not offer comparable products for the other products of interest.

[†] Exempt foodstuffs are, in Dutch: "*brood, suiker, zout, melk, eieren, boter, bakolie, babyvoeding, luiers, toiletpapier, rijst, bonen, aardappelen, graan, meel, kip en fruit*"

Interviewees at shipping companies mentioned that staff (crew and stevedores), taxes, fuel, rent, harbor fees, insurance, and flag costs are significant costs for them.

- ABB 6 percent, many items exempt: ABB is 6 percent for goods,[13] but many food products are exempt.[*14] Transportation is not exempt from ABB. Broker fees (clearance) are assumed to be 7.5 percent on top of the amount of ABB that is paid. This percentage is based on invoices shown by a retailer for this study.
- Trucking based on interviews: Trucking is assumed to cost $ 20 a pallet. This estimate is based on interviews. A pallet is assumed to contain 60 boxes.
- Retail prices based on price comparisons: The gross retail margins are based on the retail prices that were found during the price comparisons that the public entity carried out in September and November 2023 or on price measurements that EBA carried out in October 2024. The margin of 33 percent is higher than what was reported in interviews with supermarkets: supermarkets often have a mark-up of roughly 30-40 percent, which corresponds to 23-29 percent of the retail price. In the European Netherlands, the average retail margin of supermarkets was 27 percent in 2009-2022 (defined as net sales minus cost of sales as a percentage of net sales).[15]
  The Ecorys study found the same average margin of 33 percent for Saba and Sint Eustatius (although retailers said in interviews that their margins were 15-30 percent during that study), of which 17 percentage points consisted of staff costs, 5 percentage points of energy expenses, 8 percentage points of other costs and 3 percentage points of the net margin.[16] During the interviews in October 2024, most retailers indicated that they did not know the break-down of their margin. A large retailer reported that they usually have a 6-percent profit margin. For comparison, operating income of the supermarket sector in the European Netherlands was 4.3 percent of net sales in the period 2009-2022.[17]
  The retail margin is relatively high for fresh products (fruit, vegetables, ribs): on average 40 instead of 33 percent. This is consistent with the findings by Ecorys. The reason for this may be that the food loss is high fresh products.[18] Moreover, overhead costs may be higher as fresh products have to be refrigerated. However, there is also a certain margin of error in the calculations.
  - Increases in staff costs due to higher minimum wages: The steep minimum wage increases since 2010 have undoubtedly had an impact on staff costs (see Figure 7).
  - Electricity costs relatively high: High electricity prices lead to higher energy costs on Saba than in the European Netherlands.[19] With respect to variable electricity tariffs, the maximum price on Saba is $ 0.38/kWh,[20] whereas the average (consumer) electricity price during the first ten months of 2024 in the European Netherlands was € 0.17 per kWh ($ 0.18 as of November 2024).[21†]

The findings in Figure 10 are mostly consistent with the price components according to a study by Ecorys in 2017 (see the table below). The largest discrepancy between Ecorys' estimates and those in Figure 10 relate to transportation costs. This difference can partly be explained by different assumptions on the price of a container, the amount of boxes/cubic feet in a container, and the (additional) costs of refrigerated and frozen cargo. Transportation costs are relatively high for toilet paper and napkins, which have high volumes but low weights.

[*] Exempt foodstuffs are, in Dutch: "*melk en zuivelproducten, vogeleieren, natuurhoning en overige eetbare producten van dierlijke oorsprong, groenten, planten, wortels, knollen, fruit, schillen van citrusvruchten en van meloenen, koffie, thee, maté, specerijen, granen, producten van de meelindustrie, mout, zetmeel, inuline, tarwegluten, vetten, oliën en dissociatieproducten daarvan, bewerkt spijsvet en was, suiker en suikerwerk, bereidingen van graan, van meel, van zetmeel of van melk en gebak*"

[†] The European Dutch energy tax and energy tax reduction (*belastingvermindering energiebelasting*) are assumed to cancel each other out.

Table 2 Ecorys estimated the price components of products on Saba and Sint Eustatius combined and on Bonaire.

	Purchasing value	Interregional transport	Wholesale margin	Turnover tax	Local transport	Expenditure tax	Retail margin
Saba St Eustatius	47%	1%	14%	1%	1%	2%	33%
Bonaire	50%	3%	8%	2%	1%	3%	35%

Source: Amsterdam Bureau for Economics (2024), based on Ecorys. [22]

Hardware stores usually order directly from the US

The price structure looks different for hardware stores than for supermarkets. Hardware stores Do It Best and E&H import containers or loose pallets directly from the US. The retail price consists of the wholesale price in the US, transportation from the US to Saba and a retail margin. The fee paid for transportation then includes transport from Sint Maarten to Saba. Certain products and materials are imported from Puerto Rico.

Although hardware stores can order containers from the US, the transportation of full containers is not possible on Saba's roads. This means that containers have to be manually unloaded at the port. After, they are transported on pick-up trucks to the stores, where they are again unloaded manually. As a result, ordering a full container hardly provides any economies of scale anymore once the cargo has arrived on Saba.

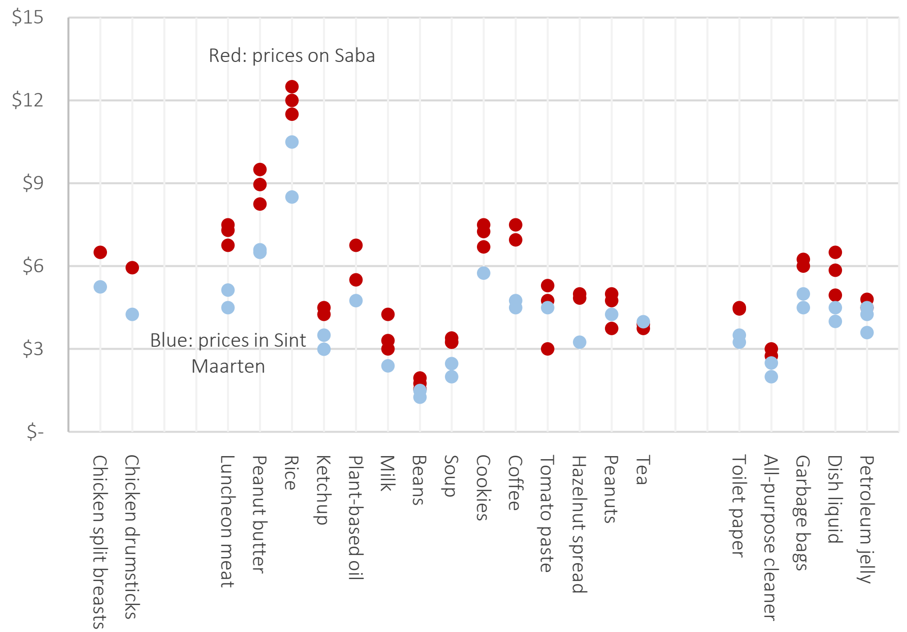
For products ordered at Sint Maarten wholesalers, only the supply chain between the wholesaler in Sint Maarten and the retailer on Saba can be influenced

For products imported from the US via Sint Maarten wholesalers, not all components can be influenced. It is unlikely that transportation costs between the US and Sint Maarten can be influenced. Wholesaler prices in the US can mostly be influenced by purchasing a different brand. The government of Sint Maarten can influence wholesale prices by regulating wholesaler margins.

Transportation costs from Sint Maarten to Saba, the expenditure tax on Saba and the retail margin are most likely to be in the sphere of influence of the local and national government and of local companies. Potential ways to influence these costs are explored in the next chapter. When products are imported via alternative routes, most price components change.

Prices of groceries are about 30 percent higher on Saba than on Sint Maarten, half of the difference can be explained by transportation and wages

Figure 11 Prices in supermarkets on Saba are often 25-35 percent higher than on Sint Maarten.



Source: Amsterdam Bureau for Economics (2024) based on fieldwork in Sint Maarten and on Saba.

Prices in Sint Maarten supermarkets are 30 percent higher than on Saba. Conversely, Sint Maarten is 23 percent cheaper than Saba. Taking into account a margin for the variation in prices and products, Saba is 23-37 percent more expensive than Sint Maarten, which means that Sint Maarten is 19-27 percent cheaper.

- Estimate based on price measurements and regression: In order to retrieve the estimates above, price measurements were carried out in three supermarkets on Saba (Unique, Big Rock, Saba Emporium) and three supermarkets in Sint Maarten (Fairway Mark It, New Super Value Market, 7 Day Market). The percentage difference between Saba and Sint Maarten is based on a statistical regression. More details of this analysis are in Appendix A.
- Difference largely due to transport and wages: About half the difference with Sint Maarten (Sint Maarten is about 23 percent cheaper) can be explained by the additional transportation to Saba and wage differences. 5 percent of the 23-percent difference can be explained by the transportation to Saba (see Figure 10). The minimum wage on Sint Maarten is 42.5 percent lower.[23] Assuming, based on the Ecorys study, that 17 percent of prices consists of staff costs and assuming that these are determined by minimum wages, then the minimum wage explains another 7 percent of the difference. However, most cost differences cannot be quantified. For example, there are no comparable data on rent or energy for both islands. Additionally, it is not straightforward to quantify the economies of scale that supermarkets in Sint Maarten can realize compared to Saba.

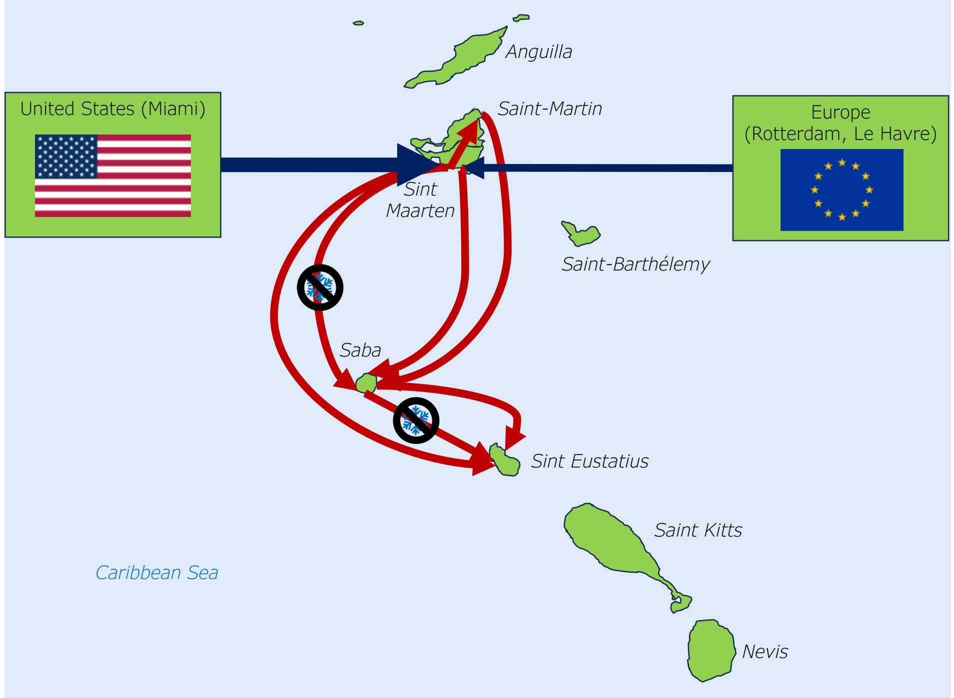
The remainder of this chapter describes the economics behind the components above in greater detail. First, transportation costs are explained using a description of the supply chain and a comparison of this supply chain to that of Sint Eustatius and Bonaire. Second, the cold chain is described, since an inadequate cold chain leads to food loss which in turn increases costs that are passed on to consumers in the gross retail margin. Third, the market structure and competition on Sint Maarten and Saba are described, as these affect wholesale and retail margins. The chapter concludes with a brief discussion on local production on Saba, which is the most radical way to cut off the price components above.

Transportation costs: supply chain and logistics

Imports to Saba are shipped from Sint Maarten and originate from the ports of Miami, Rotterdam and Le Havre

This section describes the supply chain and logistics of imports to Saba and the factors affecting the prices. The figure below describes the shipping lines that transport products to Saba and Sint Eustatius.

Figure 12 Saba and Sint Eustatius are dependent on Sint Maarten for most imports.



Source: Amsterdam Bureau for Economics (2024) based on Van Geelen (2020).[24]

Certain differences between supply lines are denoted by the widths and colors of the lines:

- Thicker lines for higher value: Thicker lines denote a higher transportation value. The largest amount of cargo is shipped from Miami to Sint Maarten, illustrated by a thick blue line. Smaller quantities of goods are shipped from the ports of Rotterdam and Le Havre, indicated by the thinner blue arrow. However, the company transporting cargo from Europe to Sint Maarten, CMA-CGM, announced that it will change its transshipment location from Sint Maarten to Guadeloupe.[25] This means that cargo carried by CMA-CGM will not be shipped directly to Sint Maarten anymore. This means that cargo shipped by CMA-CGM only reaches Saba after being transshipped on Guadeloupe and then Sint Maarten.
- Blue lines denote large container ships: Large container ships require a more advanced and bigger harbor with cranes that are able to load and unload these large containers into the port.[26] These have to then be loaded onto a wheeled chassis in order to be able to be shipped off on small regional transportation ships. This process takes place in Sint Maarten.
- Red lines denote smaller regional flows of goods: Small regional flows run in between islands that are positioned in relative proximity to each other. Items enter Saba through the port of Sint Maarten.
- Not all routes ship perishable goods: The routes with a prohibition sign on a snowflake icon indicate that the ships on these shipping routes are not equipped with cooling systems. Therefore it is currently not possible to ship perishable goods such as fresh fruits and vegetables on these routes.[27]

Almost all products found in the supermarkets on Saba travel via Sint Maarten

Sint Maarten is an essential part of the supply chain for products shipped to Saba, since almost every product first travels via the island. Sea containers on large vessels coming from Miami and Europe are first shipped to Sint Maarten, from which they depart for Saba on feeders.[*] Three transport networks can be distinguished in the supply chain for products on Saba:[28]

- Supply via wholesalers in Sint Maarten: Supermarkets on Saba purchase most of their supplies from wholesalers in Sint Maarten. The supplies brought to Sint Maarten are stored in the wholesalers' storage facilities, after which orders for Saba and Sint Eustatius are processed individually and then transported to the islands.[29]
- Long-haul transportation via the port of Sint Maarten: In some cases Sint Maarten acts as a 'hub' for containers shipped to Saba. The containers are shipped to Sint Maarten from the ports of Miami and Rotterdam and consequently moved from bigger ships to smaller feeders. That means that for this supply line the wholesalers are cut out and the products are not stored in the wholesalers' storage facilities on Sint Maarten. This type of supplying is used by two hardware stores and one supermarket. A hardware company stated that it imported about 80 percent of its products directly from the US, which are delivered to a freight forwarder, stored and then shipped. This happens every two weeks.
- Regional direct supply: Some products are imported from other Caribbean islands without the involvement of the port of Sint Maarten. Every three months, a small vessel carries supplies directly from Puerto Rico to Saba. The cargo includes lumber, steel, fuel and products from the brand Goya. These are dry products only; there are no cooling facilities on board.

[*] A feeder ship is a smaller vessel used in maritime transport to connect regional ports with larger, central hub ports. These ships typically transport cargo containers between smaller ports that are not directly serviced by larger, mainline vessels.

The airport of Sint Maarten is served by cargo services as well.[30] However, it is not suitable for the transportation of fresh produce as the airport does not offer refrigeration.[31] Air cargo between Sint Maarten and Saba is not feasible either: Winair discontinued its bulk cargo services in the summer of 2024.[32] According to a broker on Saba, the other airline to Saba, Windward Express, is too expensive to replace Winair's cargo service.

Sint Maarten is one of the largest ports in the region, but there are other large ports

The table below shows that Sint Maarten is not only one of the islands closest to Saba, but also home to one of the largest ports in the region. In this table, only ports are considered that are less than 500 kilometers away from Saba. Data are not available for Anguilla, Montserrat and the US Virgin Islands. The US Virgin Islands handle a relatively large amount of cargo: Tropical Shipping, for example, handles 97,000 TEU (twenty-foot equivalent units) in St. Thomas[33] and 76,000 TEU in St. Croix as of 2020.[34] Anguilla and Montserrat, on the other hand, have smaller ports: the value of merchandise imports to these islands is only 21 and 3 percent of that to Sint Maarten, respectively.[35]

Table 3 Sint Maarten is the fourth- or fifth-largest port in terms of handled containers (twenty-foot equivalents units, TEU) annually within 500 km of Saba.

Country/territory (year)	TEU	Country/territory (year)	TEU
Puerto Rico (2022)	1,398,600	St. Kitts and Nevis (2020)	13,560
Guadeloupe (2022)	235,699	St. Martin (2021)	13,499
Martinique (2022)	192,133	Dominica (2020)	7,401
Sint Maarten (2019)	105,200	St. Barthélemy (2011)	4,190
British Virgin Islands (2019)	45,956	US Virgin Islands	*Relatively large*
St. Lucia (2019)	39,238	Anguilla	*Relatively small*
Antigua and Barbuda (2019)	27,657	Montserrat	*Relatively small*

Source: Amsterdam Bureau for Economics (2024), based on the United Nations Conference on Trade and Development[36] (Sint Maarten, Martinique, Guadeloupe, Puerto Rico, Antigua and Barbuda, St. Lucia), World Bank[37] (Dominica, St. Kitts and Nevis, British Virgin Islands), Port de Galisbay (French St. Martin),[38] Port de Gustavia (St. Barthelémy)[39].

The country of origin of the products on Saba depends on the product type

Table 4 Imports that reach Sint Maarten (Saba's main supplier) come from different countries that depend on the product. This information was backwards engineered, in a similar manner as used by Ecorys in 2017. See Appendix B for more information on COMTRADE and the product codes used.

Product origin, continents > 10% imports (2018-2023)			
Onions	✓	✓	
Bananas	✓	✓	✓
Grapes	✓		
Lettuce	✓		
Broccoli	✓		
Chicken items	✓		✓
Beef items	✓	✓	
Rice	✓		
Peanut butter	✓	✓	
Milk		✓	
Ketchup	✓		
Cleaning Agents	✓		
Dishwashing detergent	✓		
Garbage bags	✓	✓	
Napkins	✓		
Toilet paper	✓	✓	

Source: Amsterdam Bureau for Economics (2024), based on COMTRADE trading data using the methodology by Ecorys.[40]

Most of Saba's imports are purchased at wholesalers in Sint Maarten. As of 2018-2023, Sint Maarten imports most of the products of interest mainly from North

America (see Table 4), from the US in particular. A significant share of some products is imported from Europe, in particular Belgium, the European Netherlands, France and Spain, and from the region, in particular Brazil, St. Lucia and Trinidad and Tobago.

Retailers on Saba usually import hardware products and construction materials from the US (with transit on Sint Maarten) or directly from Puerto Rico.

The port of Sint Maarten is the main trading hub through which imported goods are shipped

The island of Sint Maarten/Saint-Martin has two ports. One port is located on the northern side, which is part of the French side of the island (Saint-Martin), and the other port is located in the south and part of the Dutch side (Sint Maarten).

Sint Maarten functions as a transshipment hub for the region, serving islands like Anguilla, Saint Kitts and Nevis, and more. Sint Maarten's strategic location and the absence of most import duties have helped it secure this position. Approximately 50% of all containers arriving in Sint Maarten are destined for other locations.[41]

The ports on the island of Sint Maarten/Saint-Martin are essential for Saba as well as they are practically the only ports from where products are shipped to Saba. Part of the costs of transport costs are explained by the fact that containers are usually returned empty.

- **Port of Sint Maarten visited by container ships from Europe, North America and the Caribbean:** The port of Sint Maarten serves as a local hub for most of the small islands in the region, including Saba and Sint Eustatius. This means that most goods pass through Sint Maarten before they reach Saba or Sint Eustatius. As of August 2024, the port of Sint Maarten was visited by container ships sailing from North America (US, Canada), Europe (Spain, France, the European Netherlands, the United Kingdom) and the Caribbean region (of which Puerto Rico, Trinidad and Tobago, and Jamaica are the largest countries of origin).[42]
- **Little competition due to small and declining number of shippers:** As of August 2024, a total of only three companies have lines with container ships to Sint Maarten: King Ocean, CMA-CGM and Tropical Shipping.[43] CMA-CGM controls all shipping from Europe and cooperates with Marfret on this route. King Ocean is one of the most important suppliers to Sint Maarten from Miami.[44] The shipping companies sailing to Sint Maarten do compete with each other, but due to there being only three, the degree of competition is limited.[45] Furthermore, because of CMA-CGM's decision to change its transshipment location from Sint Maarten to Guadeloupe, Sint Maarten will be dependent on only two companies for its intercontinental container supply.
- **Other factors put upwards pressure on rates**: Apart from the limited competition on this route, the relatively small size of the port of Sint Maarten and the limited return on freight due to the absence of export products are likely to put upwards pressure on the rates as well. As of 2024, the website of Tropical Shipping denotes that the rate of a full container load of groceries between Florida and Sint Maarten is $ 3,307.[46] Refrigerated cargo (not otherwise specified) costs $ 3,597. CMA-CGM and King Ocean do not show rates on their respective websites.

Three vessels supply Saba with goods

Saba is supplied by three different shipping companies on a regular basis. The (business) rates from Sint Maarten to Saba range between $ 1.50-4 (dry) or $ 4-7 (frozen/chilled) a box, excluding administrative fees.

Figure 13 The ships sailing to Saba on a weekly basis are Mutty's Pride (left picture, rightmost ship), the Orion (left picture, most remote ship) and Blessings (right picture).

Source: Amsterdam Bureau for Economics (2024).

1. The ship Mutty's Pride (Blues & Blues, LTD): Mutty's Pride departs from the French side of Sint Maarten every Tuesday, heading first to Saba and then to Sint Eustatius. Other destinations are Anguilla and St. Kitts. The ship arrives at the port of Saba at first light,[47] though the exact arrival time varies depending on the season. Later that same day, Mutty's Pride departs for Sint Eustatius, which it reaches around 12:00 PM. Mutty's pride is the largest ship with cooling facilities on board, making it the most important supplier for supermarkets. This results in market power for the owner company Blues & Blues, LTD.
2. The Orion (Seven Castles shipping): The Orion is the other large ship and focuses on large cargo: vehicles, containers, heavy equipment, cement, steel and other similar materials. In general, they do not ship groceries on a regular basis to Saba. Whereas they are able to carry refrigerated containers (reefers), they generally do not ship loose refrigerated items. Whereas the Orion used to arrive on Tuesday evening, it now arrives on Wednesday afternoon, after visiting Sint Eustatius and before sailing to Montserrat. Seven Castles sails to many regional islands including for instance St. Kitts.
3. Blessings Express started in 2023: Blessings express has a smaller vessel that can only transport a select amount of pallets, which can be chilled as well. The ship sails on Tuesdays. This line is relatively new: Blessings started shipping to Saba in August 2023. Due to the entry of Blessings as a transport company with cooling facilities, there is competition on the line Sint Maarten-Saba.

Saba faces several additional restrictions due to its small port size. The port has a limited capacity to receive and store cargo. Only 12 to 15 containers can be stored, depending on their size. Similar to the ports of Sint Eustatius and Bonaire, the port of Saba also does not feature cranes. As a result, containers need to be unloaded through a roll-on-roll-off system.[48]

Saba is also connected to Sint Maarten by the ferry (Makana). The ferry can only transport cargo that passengers have in their suitcases.

Transportation costs: Comparison to Bonaire and Statia

Sint Eustatius has three connections to Sint Maarten, two of which are the same as Saba's connections

Sint Eustatius is connected to Sint Maarten by several sea transportation lines:

- Mutty's Pride: This vessel supplies Saba as well.
- Orion: Seven Castles shipping (the Orion) is going to transport frozen produce to Sint Eustatius for certain customers, in addition to the dry cargo that it already transports.

- **Emprendedora**: As of 2020, the Emprendedora* connected Sint Eustatius to Sint Maarten, Antigua and Montserrat.[49] The port of Saba is too small to dock this larger cargo ship.

Stakeholders indicated that relatively high volumes are shipped to Sint Eustatius because there are large businesses on the island, such as the oil terminal and the Golden Rock Resort.

Bonaire has a more diverse supply chain than Saba and Sint Eustatius
The dependence of Saba and Sint Eustatius on Sint Maarten differentiate them from Bonaire, the third Public Entity within the Caribbean Netherlands. As Bonaire is not in scope of this quick scan, this sketch of the supply chain to Bonaire is based on the study by Van Geelen (2020) and not fully updated.[50]

Bonaire is less dependent on one particular hub than Saba. In 2020, Bonaire was mostly supplied from Curaçao, which has a hub function comparable to that of Sint Maarten. As of 2020, Curaçao was supplied from the US, the European Netherlands and Latin America. In 2024, Trinidad and Tobago established a direct shipping link with Curaçao.[51]

However, Bonaire also had direct connections with Belgium and the Dominican Republic. Moreover, Bonaire had air connections with Amsterdam and Colombia for fresh food. Although the border with Venezuela was closed for trade in 2020, the border has since then re-opened. As of 2024, King Ocean also sails from Port Everglades in Florida to Bonaire.[52]

Nevertheless, there were factors that put upwards pressure on transport costs to Bonaire as of 2020, such as the lack of competition on the route from Curaçao to Bonaire. Moreover, transport from Miami to Curaçao is relatively expensive. For example, a refrigerated 40-ft container from Miami to Sint Maarten cost between 2,500 and 3,500 dollars, while from Miami to Curaçao, it cost around 5,000 to 6,000 dollars. Notably, the cost of the same container from Rotterdam to Curaçao was around 6,000 to 6,500 dollars.[53]

Retail margin: Food preservation, origination and cold chain

Many different factors influence the extent to which fresh products can be delivered in good shape to a supermarket. This section takes a closer look at the 'cold chain' and describes the journey that fresh food undergoes before it is placed in the shelves of supermarkets on Saba.

There are different causes behind food loss
This report explicitly focuses on food loss, which is different from food waste. Whereas food waste concerns the deliberate discarding of safe and healthy products, food loss concerns the deterioration of the quality of food to such an extent that it cannot safely be offered to a consumer any longer.[54]

Food loss is not considered a major problem by interviewees at supermarkets. One supermarket estimated that 10-20 of fresh products spoil, whereas another supermarket estimated this percentage at 5-10 percent. This means that there are gains to be made regarding food loss. In the European Netherlands, for example, food loss was only 1.4 percent in 2022.[55] The quality of vegetables and fruit is perceived as poor on Saba, and a study in 2017 found that, according to wholesalers, a large share of products is lost during transport.[56]

The estimated food loss percentages mentioned by supermarkets contradict the estimates from a study in 2017.[57] Based on the margins of supermarkets, this study estimated that 38 percent of fruit and 22 percent of vegetables is lost on Saba.

* Called 'Enprenadora' in the report by Van Geelen (2020).

However, due to methodological issues, these percentages only provide a rough picture at best.[*]

Food loss and general decline in shelf life and quality of the products can occur at any of the stages in the supply chain and may have different causes:[58]

- **Unfavorable environmental factors:** Products may not be properly cooled after harvest, cooled incorrectly or not cooled at all. This reduces the lifespan of fresh products and increases the pace of spoilage. Temperatures can also be too low for fresh fruits and vegetables, which can cause freezing or cooling damage. Such issues frequently occur at stages in the supply chain focused on the storage or transport of fresh produce. For instance, tropical fruits might be left temporarily in direct sunlight, or different types of fruits and vegetables might be transported under uniform temperature and humidity conditions. Damage can also occur due to broken cooling or freezing mechanisms in storage facilities or shipping containers.
- **Improper handling of fresh products:** Vegetables and fruits can be at risk of being crushed in an overfilled container, damaged by sharp objects, or bruised when handled too clumsily. The choice of packaging material also plays an important role in the preservation of fresh products, as packaging material adds an extra layer of protection to the product in question.
- **Bad transportation:** Transport is one of the most critical and one of the riskiest stages in the cold chain. The longer a fresh product has to travel, the higher the risk that it spoils. Therefore, high-quality infrastructure increases the chances that products reach their destination in time. Even under the best conditions, all fruits and vegetables have a limited lifespan, making it essential to keep the time between harvesting and consumption as short as possible.

During interruptions in the cold chain, the temperature is not controlled

The term ‘cold chain’ refers to a temperature-controlled supply chain that is used to maintain and preserve perishable products like food, pharmaceuticals, and chemicals from the point of origin to the final destination. This involves a series of refrigerated production, storage, and distribution activities, as well as associated equipment and logistics, all designed to keep products within a specific temperature range to prevent spoilage, degradation, or contamination.

A cold chain break signifies an interruption in the temperature-controlled environment in which temperature sensitive goods are being transported. The fresh products that end up in the supermarkets on Saba undergo a long journey during which the cold chain is broken on several instances, sometimes shortly, sometimes for a longer period of time.

The supply chain of products ordered at wholesalers consists of many links, so the cold chain is interrupted several times

Figure 15 shows the full journey products undergo before they reach the supermarket shelves on Saba. Products are refrigerated for the majority of their journey. Links in the supply chain where temperatures are controlled are depicted with a snowflake symbol. Nevertheless, there are many handling activities that take place in a warm climate, and products are not conditioned during the transport on Saba, so that there are several cold chain interruptions. This can decrease the quality and shelf life of the products.[59]

[*] There are more factors influencing the differences between margins of food items than food loss only. For example, the Ecorys study found that the margin on meat on Saba and Sint Eustatius is lower than the margin on soap, although it is almost certain that more meat than soap is lost through spoilage. This can be explained due to measurement error or because other costs (such as staff costs) are not allocated equally to the various products. As a result, part of the higher margins on fruit and vegetables may be explained by measurement error and the unequal allocation of other costs as well. Moreover, the costs because of food loss may not be reflected in the margins of fresh products, as small retailers may not have the administrative capacity to allocate costs on a product level.

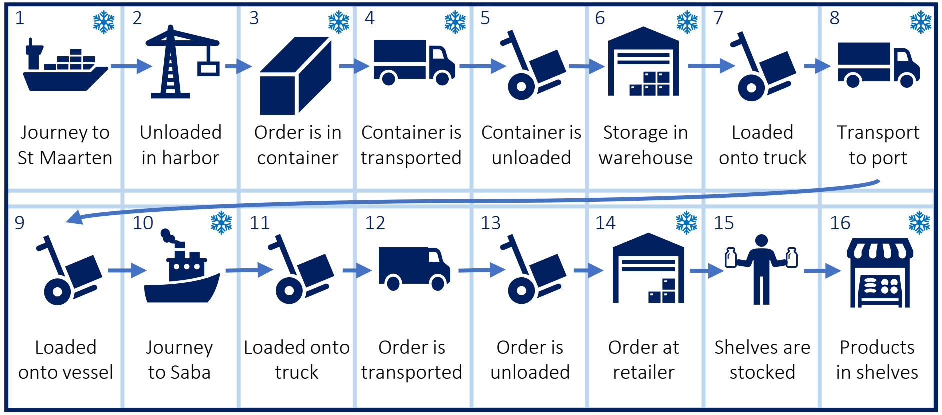
Figure 15 differs from the chain described in a previous study by the Netherlands Enterprise Agency (RVO)[60] in three ways. First, step 3 has been added, as an interviewee working at a major wholesaler indicated that containers are stored in the port for customs clearance before being picked up. Second, storage in the ports of Sint Maarten/Saint-Martin before shipment to Saba has been removed. Multiple parties involved in this part of the supply chain indicated that the wholesalers' trucks only arrive in the port when the ship is already waiting. Third, storage in the harbor of Saba has been removed. Mutty's Pride is unloaded early in the morning (around 5:30 to 6 AM), when the sun is not yet at its strongest. Supermarkets directly load the chilled products onto their trucks and take off. Supermarkets do not have to wait for customs clearance, as supermarkets or their brokers have a week to arrange this.

Figure 14 Most refrigerated cargo is transported to Saba on the Mutty's Pride (left) in reefers (right).

Source: Amsterdam Bureau for Economics (2024), based on interviews with stakeholders.

As distances on Saba are small (it is a 1.5-5 km drive from the harbor to the various supermarkets), the cold chain is not interrupted for a long period of time for supermarkets. This is different for smaller importers, such as individuals or restaurants. This was mentioned by interviewees, but witnessed during a visit to the harbor on Wednesday as well. At 8:30 AM, chilled boxes for clients on Saba were still sitting in the sun, as well as a pallet with chilled goods for Sint Eustatius. However, customs indicated that a fast procedure exists for perishable goods, where customs clearance can be arranged prior to arrival of the goods.

Figure 15 Products are handled many times before they end up in the shelves of the supermarkets on Saba.



Source: Amsterdam Bureau for Economics (2024), based on interviews with stakeholders.

This supply chain looks different when goods are ordered in the US and transshipped in Sint Maarten. The links 4, 5, 6 and 7 in the figure above do not apply in this case. During direct shipments, a container is shipped to a freight agency (freight forwarder) on Dutch Sint Maarten and stored until ready to be shipped. Later, the container is trucked to the harbor on the French side, loaded onto the Mutty's Pride and shipped to Saba. The Orion is not used for direct shipments from the US. During the full journey, the container is not opened.

The journey from Florida to Saba takes 7 to 12 days, the journey from Rotterdam to Saba takes 16 days

Food loss is also connected to the duration of the journey of products to Saba. The table below shows the duration of the journey to Sint Maarten for different ports in major countries. The (minimum) duration of the journey to Saba can be calculated based on the fact that the Mutty's Pride leaves for Saba on Tuesdays and arrives on Wednesdays. The table shows that imports to Saba from Europe take at least 12 days and imports from North America take at least 7 days. The longer the journey, the lower the quality of fresh products.

Table 5 The journey from several (major) international ports to Saba takes 6 to 16 days.

Origin	Carrier	Duration to Sint Maarten	Day of arrival	Total duration to Saba (on Wednesday)
Palm Beach, FL	Tropical Shipping	4 days	Sunday	7 days
Palm Beach, FL	Tropical Shipping	5 days	Wednesday	12 days
Halifax, CA	Tropical Shipping	9 days	Wednesday	16 days
San Juan, PR	Tropical Shipping	2 days	Wednesday	9 days
Point Lisas, TT	Tropical Shipping	3 days	Sunday	6 days
Vigo, SP	CMA-CGM	18 days	Monday	20 days
Rotterdam, NL	CMA-CGM	14 days	Monday	16 days
London, EN	CMA-CGM	12 days	Monday	14 days
Le Havre, FR	CMA-CGM	10 days	Monday	12 days
San Juan, PR	CMA-CGM	1 day	Tuesday	2 or 9 days
Kingston, JM	CMA-CGM	3 days	Wednesday	10 days
Everglades, FL	King Ocean	4 days	Sunday	7 days

Source: Amsterdam Bureau for Economics (2024), based on the carriers' websites and own calculations.

As the journey from Rotterdam to Sint Maarten lasts two weeks, not all fresh products will survive the journey. For that reason, there is a limited variety of fresh products shipped to Sint Maarten. In an earlier study, a shipper told that the vegetables and fruit that his company transported consisted of fresh potatoes, onions and carrots, as well as canned or frozen food.[61]

Various stakeholders on Saba indicated that they suspect that the quality of their products is lower than on Sint Maarten. The reason for this is that containers often arrive on Sundays, whereas Mutty's Pride leaves on Tuesdays. This may mean that Sint Maarten retailers have first choice purchasing fresh products. A previous study mentions a similar mechanism.[62]

Wholesale and retail margin: Market structure and competition

Markets in Europe and the US are competitive

The wholesale markets in Europe and in the US are competitive, where Florida and the European Netherlands are notable exporting regions.[63] Supermarkets or wholesalers order items at the suppliers overseas, after which the products are loaded onto containers and transported to the Caribbean.

There are concerns about the lack of competition between wholesalers on Sint Maarten, which harms prices and food quality on Saba

The most important source of supply of Saban stores is the wholesale market on Sint Maarten. The key role of wholesalers in the supply chain is importing food from elsewhere, to store it and to deliver it. The products can be delivered to (their own) supermarkets and restaurants on Sint Maarten or to the harbor for export to nearby islands such as Saba. Other tasks that the wholesalers fulfill is market research.[64] Major wholesalers in Sint Maarten and Saint-Martin for supermarkets include Carrefour, Divico, Fairway, H&R Supply, Prime Distributors, Sunny Food, SXM Distributors, and SuperU. Hardware stores purchase in the US or Puerto Rico to a large extent. Relevant suppliers on Sint Maarten and Saint-Martin include ACE, Divico, Klass Electronics, Kooyman, and Music Man.

At first glance, the Sint Maarten's wholesale market seems competitive, as Sint Maarten had 51 wholesalers in 2018.[65] However, various sources report that there are doubts regarding the functioning of the wholesale market on Sint Maarten.[66] There are several reasons that justify these concerns about the wholesale market:

- Disproportional CPI increase for food on Sint Maarten: Sint Maarten has experienced a disproportional increase in the price of food between the periods 2010 and 2017 compared to the countries from which wholesalers on the island source their products. Whereas the increase in food prices for that period on Sint Maarten was over 61 percent, CPI for food in Miami increased with only 15 percent. This is a large difference, even when keeping in mind that CPI may not solely be determined by transportation costs and cost price. Meanwhile, Curaçao's CPI for food increased by less than 30 percent between 2010 and 2019, even though Curaçao also imports from Miami.[67]

- Apparent focus on luxury goods rather than price competition or cheap products: Not all 51 wholesalers supply the same products. For example, of the five wholesalers on the website of the St. Maarten Hospitality & Trade Association, one distributes different kinds of consumer products (Prime Distributors), but three wholesalers only supply beverages and one is specialized in hotels and restaurants. The high influx of tourists has caused wholesalers to shift their attention to importing luxury goods rather than importing common goods.[68] What is more, tourists have a higher willingness to pay for A-branded products meaning that higher prices can be charged for these products.
- Connections between wholesalers: On top of that, Prime Distributors has connections to the other large wholesalers Carrefour and Divico, which are both business and family ties. Such connections may hinder competition.[69]
- Wholesalers agents for certain brands: Prime Distributors and Divico are the local agents for certain products or brands, which gives them a stronger position than competitors to trade in these products and brands.[70]
- Margin regulations only for specific products: Although the government of Sint Maarten regulates wholesale margins of a wide range of products, these maximum margins only apply to products of a specific brand and quantity (such as 16 ounces of Jiff in the case of peanut butter).[71] A lawyer on Sint Maarten confirmed that other brands or quantities are not regulated.

Because of Saba's small scale, businesses cannot usually buy in bulk to exercise bargaining power: businesses often order one or two cases of a certain product. Nevertheless, many businesses on Saba, including supermarkets and hardware stores, compare wholesalers to one another and order at the wholesaler with the best price at a certain week.

Small businesses do not seem to try to push each other out of business

Several retailers or shipping companies indicated that they do try to attract customers, but that they do not adjust to their competitors much or try to push each other out of the market. Most interviewees also indicated that their prices and margins are calculated so as to cover their expenses. This implies that costs are passed on to consumers. It also suggests that competition is not that severe: companies do not lose all their customers because they pass on costs to a greater extent than their competitors.

Saba has four supermarkets, which have different supply and prices

Retail stores set the final price against which goods can be purchased. An important factor that determines the price of a product is the degree of competition.

Saba accommodates four supermarkets, of which two are located in Windwardside (Big Rock and Unique), and two in The Bottom (Saba Emporium and Saba Wishes). This means that the food market on Saba can be characterized as an oligopoly, with only four supermarkets competing. However, this does not mean that competition does not take place.

Taking the size of Saba into account, the number of supermarkets is high. Saba accommodates 1.9 supermarkets per 1000 inhabitants, which is more than the number of supermarkets per capita in the European Netherlands (0.4 per 1000 inhabitants).[72] The differences between European Netherlands and Caribbean Netherlands are partly related to the process of rationalization and scaling up in the European Netherlands, while there is a strong and recent increase in the number of minimarkets in Caribbean Netherlands.[73]

Although the price of food on Saba is higher than on Bonaire and Sint Eustatius, the market for food seems, at surface level, not to display strong characteristics that might indicate malfunctioning: there are different supermarkets that are located relatively close to each other, and there are little to no legal constraints preventing supermarkets from entering the market. There are, however, practical constraints, such as the limited bargaining power new entrants will have when ordering from wholesalers.[74]

The low number of supermarkets does not lead to uniform prices, as witnessed in the table below. This means that it is possible for consumers to compare supermarkets and choose the cheapest one. A series of price measurements by the Public Entity Saba showed that there were price differences of up to 22 percent between supermarkets in the summer of 2022. By November, the price differences had fallen to 11 percent at most. It is not clear whether this is related to the price comparisons, and if so, whether Big Rock increased their prices or that the other supermarkets lowered their prices. For example, the prices of some products (of the same brand) were lowered at Saba Emporium, while many other prices were increased at the store.

Table 6 During a series of price measurements, Big Rock turned out to be the cheapest supermarket, but differences with other supermarkets declined.

Supermarket	July 2022	Aug 2022	Sept 2022	Nov 2022
Big Rock	0%	0%	0%	0%
Unique	-	7%	8%	2%
Saba Emporium	19%	22%	18%	8%
Saba Wishes	14%	21%	19%	11%

Source: Amsterdam Bureau for Economics (2024), based on data provided by the Public Entity of Saba.

The supply differs from one supermarket to another: some supermarkets have products and brands in store that the other supermarkets do not offer.

There are two to three hardware stores on Saba
The hardware stores on Saba are Do It Best (Windward Side) and E&H Home Center (The Bottom). Big Rock Engineering (Fort Bay) is a fuel station, but offers certain construction materials as well, such as construction blocks. This means that there are 1.0 or 1.5 hardware stores for every 1000 inhabitants, which is again more than the number of 0.3 per 1000 inhabitants in the European Netherlands.[75]

Although there are multiple hardware stores, the supply of the stores differs. For example, not all stores supply construction blocks, wood and cement. This means that stores can have a monopoly on certain products.

Cutting off the supply chain: Local production on Saba

Transportation costs to Sint Maarten, combined with the gross wholesalers' margin and the subsequent transportation to Saba, constitute approximately 23 percent of the total retail price of food on Saba. When food is grown locally, these costs are prevented. In recent years, new initiatives for local production have emerged.

Innovation drives an increase in local production of fruit and vegetables
Most of Saba's food and water consumption depends on imports from the US and Europe, through Sint Maarten. A small fraction of fruit, vegetables, meat and dairy products is produced on the island. Agriculture on Saba traditionally involves small plots of land where manual labor is necessary because the steep, rocky terrain does not support heavy equipment. Moreover, the landscape makes it hard to save irrigation water. Local farmers also face challenges from goats that threaten vegetation and crops.[76] As of 2022, only 10 of the 1,010 employed Sabans worked in agriculture, forestry or fishing.[77]

Recently, the public entity on Saba has made efforts to increase local food production. One of these efforts is the opening of two hydroponic farms, where crops can be grown more efficiently than when traditional farming methods are used.[78] One of these greenhouses is currently operational, with the intention to add a second one shortly. A third greenhouse will serve the reforestation project on Saba. Research by the University of Wageningen shows that an initial investment of $ 25,000 can yield 800 crops of lettuce for a price of just $ 800.[79] Local produce is sold by the Saba Reach Foundation.

Hydroponic farming is considered to be a more efficient form of farming, which requires little land, fertilizers and pesticides. According to some, it can be the answer to supply food to isolated regions or regions where circumstances for on-land farming are unfavorable. However, an international study estimated that the prices of crops produced in hydroponic farms are 40 percent higher than fruit and vegetables produced in soil.[80] Yields per acre are estimated to be 11 times higher with this modern way of farming, but the required energy, according to a 2015 study, is 84 times higher, which drives up prices of crops produced in this way.[81]

If the project, titled Saba Grows, is successful in providing more domestically grown food, this can increase the food security on the island. However, given the high production costs of farming, this may not lower prices significantly in the short run. An evaluation of the results of the Saba Grows after some time could provide more answers about the effects of the project. Even when prices are not significantly lowered by local agriculture, local production can have broader advantages. For example, it makes Saba less reliant on imports and it limits the amount of cool chain disruptions, which may have a positive impact on public health.

Another potential future innovation relates to irrigation. The University of Wageningen conducted a study into the opportunities for agricultural development in the Caribbean, and recommended that the Dutch Caribbean islands work on a long-term, integral water plan, to support irrigation in the future.[82] This recommendation is still of great importance for the development of agriculture on Saba.

Government-funded local drinking water is competitive with imported drinking water

In 2021, the public entity initiated the set-up of Saba Splash, a company providing drinking water at subsidized prices.[83] The subsidized prices are competitive, as they are lower than the prices of bottled water at the wholesalers in Sint Maarten (based on the archived website of Prime Distributors). It is unclear what the prices of Saba Splash water will be once the subsidies from the Dutch government end in 2028. This would have to be re-evaluated in due time.

4. Policy options

A set of measures can potentially lower the cost of living on Saba. The three most promising policy options in the sphere of influence of the local and national governments are the installation of a cooling and storage facility in the harbor, an investigation into an ABB exemption on transport costs, and the possibility to carry cargo on the ferry. The practice by certain businesses to sell off-brand products and to charge lower margins on basic goods are also effective.

This chapter then describes international experiences with two more radical measures, namely price regulation and competition law. Although price regulation is applied in many countries, it has several adverse effects and international experience with it is generally not positive. Competition law has the potential to lead to lower prices and better quality in the long run.

Recommended policy options

There may not be any policy options that will have a substantial effect on prices

Many reasons for the high prices on Saba are exogenous and cannot be taken away.

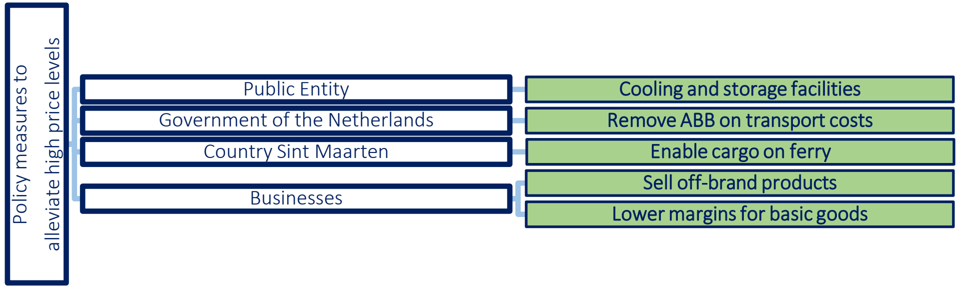
- Small scale: Because Saba is a small market, retailers on Saba have little bargaining power and cannot buy in bulk.
- Mountainous terrain: Due to the mountainous terrain, the roads on Saba are steep and winding. As a result, cargo is mostly carried by pick-up trucks rather than trucks transporting a full container. Furthermore, several stakeholders indicated that the lack of storage space on Saba makes it more difficult to import full containers. The lack of flat land may also be related to this.
- Remoteness from major markets: As Saba is about almost 2,000 km remote from the US, almost 6,000 km from Europe, and more than 1,000 km from Colombia, most food products from large exporting countries have to travel a long distance to get to Saba.
- Different jurisdiction from Sint Maarten/Saint-Martin: Almost all imports to Saba are subject to customs clearance. These goods are imported from other jurisdictions: (Dutch) Sint Maarten, (French) Saint-Martin and to a lesser extent Florida and Puerto Rico. Although (French) Saint-Martin is part of the internal market of the European Union, there is no free movement of goods between Saint-Martin and Saba, because Saba is not part the internal market of the European Union. As a result, customs clearance takes place nonetheless.

Other cost-increasing factors are not completely exogenous, but cannot be changed in practice. For example, a minimum wage decrease would decrease costs for retailers, but this would be socially unacceptable. If the cargo port is expanded, larger ships will be able to dock. However, this would require a substantial investment (in addition to the existing plans for a new port) while it is not yet certain if this investment would attract larger ships.

The governments of Saba, the Netherlands and Sint Maarten, and local businesses can all take measures to lower prices to some extent

The figure below shows the recommended policy options. Although the impact of these measures may be limited, they may help to control or reduce prices or to create alternatives for consumers.

Figure 16 Five policy options are the most feasible and direct: to enable a cooling and storage facility in the harbor, to remove ABB on transport costs, to enable cargo on the ferry to Sint Maarten, to sell off-brand products and to have lower margins on basic goods.



Source: Amsterdam Bureau for Economics (2024).

The time horizon of the implementation of these options varies between the short term (within one year), the medium term (between one and two years) and the long term (more than two years).

The construction of cooling and storage facilities can help protect the cool chain and realize economies of scale

The cold chain interruption would be shorter in case there were a cooling facility in the harbor. Since supermarkets typically load cargo onto their trucks directly after it has been unloaded from the ship, retailers will possibly not use this facility. Still, it could protect the cold chain for individuals or small businesses ordering a few chilled boxes. The fresh products would then be protected when the mixed pallets they are in are broken open, when the order is cleared, and when the products cannot be immediately transported because of the limited number of truckers on the island.

Saba Electric Company indicated in an interview that they expect that it is possible to install the transformer that is necessary to plug in a chilled container. In 2020, the Dutch government estimated the size of this investment at € 142,000.[84] This option seems feasible despite the Public Entity's limited implementation capacity. This is not only an urgent measure from a public health perspective, but it can also reduce costs. It will make it easier for individuals and small businesses to import chilled goods directly from Sint Maarten, so that supermarkets on Saba face more competition. What is more, these orders can be picked up at the time that is most efficient for the customer, instead of in the morning only.

The Dutch government has allocated € 24 million for the years 2025-2028 for food security in the Caribbean part of the Dutch Kingdom and € 40 million for the years 2025-2026 for the development of a new harbor on Saba.[85] Although the current harbor will remain the main cargo harbor, stakeholders could look into the possibilities of using one of the budgets to improve the facilities in the current cargo harbor. Other facilities that some stakeholders miss in the current cargo harbor are a shared forklift truck and a shelter from the rain for cargo.

If there is a sufficiently large storage facility on Saba, it can be used by retailers as well: it then enables them to store large quantities of both dry and chilled goods, so that they can realize economies of scale and save costs. The location of this storage facility needs to be determined taking the size and the vulnerability for storms into account.

The table below summarizes this policy option:

Table 7 The installation of cooling and storage facilities is feasible and mostly impacts public health and economies of scale.

Option	Cooling and storage facilities
Impact	Direct effect on public health, indirect effect on prices by enhancing competition by enabling imports of chilled items from Sint Maarten for individuals and small businesses, more direct effect on prices when there is a large enough storage facility to be used by retailers for storage
Efficiency	High: the investment to install a conditioned container is relatively low The investment for a larger storage facility depends on the design and location of this facility
Horizon	Cooling facility in the harbor: short term (urgent) General storage facility: long term (for example, a suitable location has to be found first)
Side effects	No negative side effects expected
Preconditions	Willingness by Saba Electric Company to install an electricity connection; a suitable location for a larger storage facility.

Source: Amsterdam Bureau for Economics (2024).

An investigation is needed into the possibilities of exempting transport costs from ABB

Currently, both the wholesale price of most products and the transport costs of imports are subject to ABB. The Ministry of Finance indicates that this is primarily based on the General Agreement on Tariffs and Trade (GATT), more in particular Article VII. After the consultation of the Tax Plan for 2024, the Ministry of Finance wrote in a letter that many countries tax the CIF value (cost, insurance and freight), whereas other countries do not.[86] The Ministry of Finance advised the secretary of state to investigate the policy option to exempt transport from ABB. Such an assessment will include budgetary consequences, obligations by the World Trade Organization, the tax burden for businesses, feasibility for customs, and the extent to which this tax cut will be actually passed on to consumers.

If transport costs were to be exempted from ABB in the future, the impact will still be limited. Assuming regional transport costs are 5 percent of the price and assuming a 6-percent ABB rate, costs to retailers will decrease by about 0.3 percent.

However, this decrease may not be fully passed on to consumers. If this is the case, this measure is not efficient: the government resources used for this would be lower than the purchasing power increase for households in that scenario. Nonetheless, the measure to remove ABB on transport is one of the most direct ways for the Dutch government to influence prices.

Stakeholder complaints about the customs system (ASYCUDA) are unlikely to be resolved. Stakeholders mentioned that customs clearance is time consuming. For example, it can take 45 minutes to clear an order with one hundred packages, and it can take two hours a day for supermarkets to do customs clearance. Stakeholders had complaints about the software as well: it is in Dutch, requires the installation of Java and progress is lost if the internet connection fails. This system is, however, best suited for islands such as Saba: it has been developed by the United Nations and is used by many other Caribbean countries and territories.[*87]

There are already some measures in place to decrease the customs and tax burden for retailers. ABB, 16 percent of the budgeted income from the Caribbean Netherlands to the Dutch government,[88] applies lower tariffs for imports to Saba and Sint Eustatius (6 percent) than to Bonaire (8 percent). In addition, certain products are exempt from ABB, although freight costs of these products are still subject to ABB. In order to reduce the administrative burden for customs clearance, Saba does not fully comply with the World Customs Organization system: of the six-digit codes of the Harmonized System, only the first two digits are used in practice on Saba.

[*] Other Caribbean users are Anguilla, Antigua and Barbuda, Aruba, Barbados, Belize, Curaçao, Dominica, Grenada, Guyana, Haiti, Jamaica, Montserrat, Puerto Rico, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Suriname, Trinidad and Tobago, and the Turks and Caicos Islands.

The table below summarizes this policy option:

Table 8 The effectiveness and efficiency of an ABB exemption on transport costs are dependent on the extent to which consumers benefit from this.

Option	Look into an ABB exemption on transport costs
Impact	0-0.3 percent lower prices
Efficiency	Dependent on the extent to which cost savings for retailers are reflected in the prices
Horizon	Long term (has to be investigated first)
Side effects	Lower government income and/or a higher burden for other taxes
Preconditions	• International agreements and regulations have to allow for this • Businesses have to pass on cost savings to consumers

Source: Amsterdam Bureau for Economics (2024).

When the ferry from Sint Maarten can carry its passengers' cargo, it could create new alternatives for households

If passengers on the ferry from Sint Maarten to Saba are allowed to carry cargo, this will provide them with an alternative to stores on Saba. This may lead to more competition for retailers. Currently, only suitcases may be carried on the ferry, and boxes of cargo are not allowed. The agent of the ferry stated that this situation is the result of a customs issue related to the ferry's spot in the harbor in Sint Maarten.

Although Sint Maarten is responsible for this customs issue, both the local and central government could attempt to influence the situation:

- PSO conditions: The Public Entities Saba and Sint Eustatius can investigate whether cargo services can be included in the terms of a new the Public Service Obligation (PSO). In the past, the ferry service was arranged with a PSO between the operator and both public entities, with the Ministry of Infrastructure and Water Management providing a subsidy.[89] As both Public Entities have already arranged a PSO in the past, this option does not impose an additional burden on the Public Entity of Saba.

- As Sint Maarten's partner: The Dutch central government can also try to resolve customs issues through Kingdom relations or as one of Sint Maarten's trading partners.

Once this is in place, this option will not require government funding. However, it may increase the workload of customs in Sint Maarten and Saba. It is recommended to first discuss with Dutch and Sint Maarten customs to what extent the implementation of this measure is feasible.

If the ferry were to transport cargo, freight carriers between Sint Maarten and Saba may have smaller loads. This may reduce their efficiency and lead to additional costs. This effect is expected to be negligible, as this option will only be available for passengers.

The table below summarizes this policy option:

Table 9 The option to enable cargo on the ferry from Sint Maarten to Saba requires commitment of the ferry operator and the Sint Maarten government.

Option	Enable cargo on the ferry
Impact	Indirect effect on prices by enhancing competition by enabling imports from Sint Maarten for individuals and small businesses
Efficiency	High: no government funding; possibly increased workload for customs
Horizon	Medium term (when a new PSO is negotiated)
Side effects	Negligible effect on efficiency of cargo operators
Preconditions	Commitment of the ferry operator and the Sint Maarten government

Source: Amsterdam Bureau for Economics (2024).

Off-brand products typically have lower prices than premium brands and are already available

Off-brand items are usually cheaper than their name-brand counterparts. At least two supermarkets on Saba sell, among others, Best Choice (by Associated Wholesale Grocers in the US), g'woon (by SuperUnie in the European Netherlands) and/or Member's Mark (by Sam's Club in the US).

Off-brand products have significantly lower prices than name-brand items. For example, luncheon meat by Spam (name-brand) in one of Saba's supermarkets costs $ 6.75 as of October 2024, whereas the same product in the same store by g'woon (off-brand) costs $ 6.50 (4 percent less). At the Sint Maarten wholesaler Divico, six 96-oz bottles of vegetable oil by Mazola (name-brand) cost $ 69.50 as of November 2024, while similar six bottles by Member's Mark (off-brand) cost $ 58.50 (16 percent less).

As Sint Maarten wholesalers already sell these off-brand items, this practice does not impose a substantial burden on retailers on Saba.

Figure 17 Off-brand products, in this case by g'woon, are available both on Saba (left) and in Sint Maarten (right).

Source: Amsterdam Bureau for Economics (2024).

The table below summarizes this policy option:

Table 10 The sale of off-brand products is a highly efficient and effective way to decrease prices and is already implemented by retailers.

Option	Sell off-brand products
Impact	High
Efficiency	High
Horizon	Already happening
Side effects	No negative side effects expected
Preconditions	Willingness by consumers to try other brands

Source: Amsterdam Bureau for Economics (2024).

When margins are lower for basic goods than for other goods, this helps households meet basic needs

A cross-subsidy by supermarkets between basic goods and normal or luxury goods will not decrease the general price level on Saba, but will aid households to meet their basic needs. Although prices of basic goods are not regulated by the government, several supermarkets indicated that they charge lower margins on basic goods than on non-basic goods or luxury goods.

This option has two limitations. First, this cross-subsidy comes at the expense of the products that the retailers considers non-basic. If consumers make a different distinction between basic and non-basic goods than the retailer, this option may not help them make ends meet. Second, the administration required for this practice can be challenging for small retailers.

A way to increase the supply of off-brand products and lower margins on basic products for the public entity is to make agreements (protocol) with the supermarkets on Saba. A first step could be to organize a round-table discussion with retailers and other representatives of business life, to look into the possibilities for Saban businesses to help lower the cost of living. As for the lower margins for basic goods, it is not advisable to agree on fixed margins, but rather to focus on the difference between margins of different product groups. This means that a possible agreement could be to charge margins for basic goods that are at least, for example, 5 or 10 percentage points lower than the average margin. In this scenario, retailers can still compete on their margins.

The table below summarizes this policy option:

Table 11 A cross-subsidy between basic and non-basic goods can effectively make basic goods more affordable, but does not decrease the overall price level.

Option	Lower margins for basic goods than for other goods
Impact	High for basic goods; no impact on general price level
Efficiency	Medium (additional administrative operation for retailers)
Horizon	Already happening
Side effects	Lower margins for some products come at the expense of the other products
Preconditions	Adequate administration by retailers, adequate understanding of which goods are basic

Source: Amsterdam Bureau for Economics (2024).

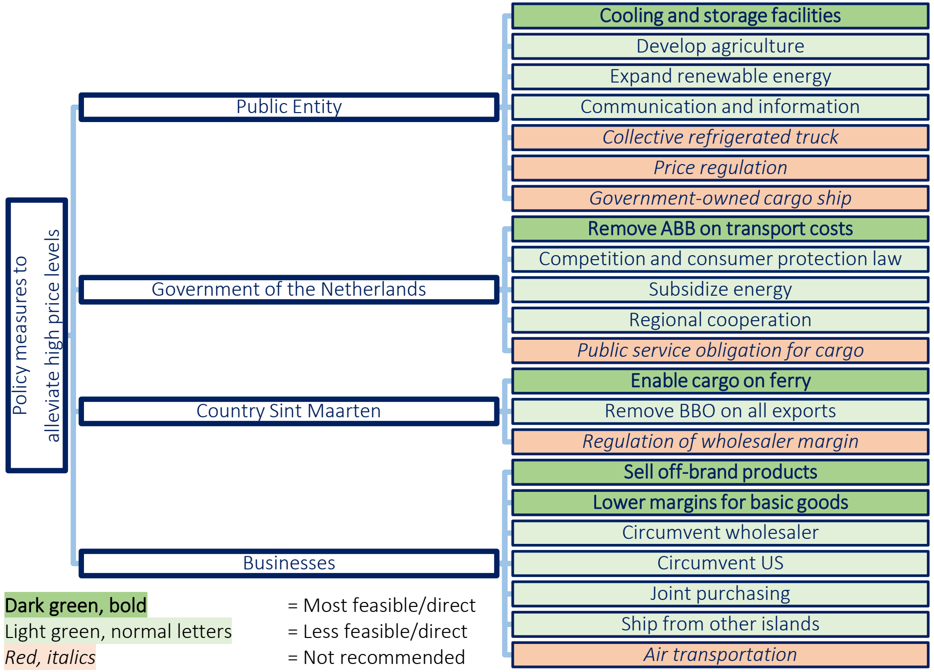
Although they are not part of this study, policy options directed at households are likely to have the largest impact

As there may be no measures that drastically lower prices on Saba, social measures have an important role to play. Several measures have already been implemented, such as the recent minimum wage and *Onderstand* (financial aid) increases and subsidies for food baskets. In Bonaire, there is a pilot ongoing with a rental subsidy. If this policy will be implemented on Saba, this may provide significant relief for households as well. Although they are important, these social policies are not part of this inventory and are not elaborated on in this study.

Other policy options

During this study, more policy options have been identified. These are in the figure below. The recommended policy options are in dark green and in bold. Some policy options that may have some effect but are not likely to have a significant impact are light green and in regular letters. The policy options that are not recommended are in light red and in italics.

Figure 18 There are policy options for the central government, the public entity, Sint Maarten and business life.



Source: Amsterdam Bureau for Economics (2024).

This section lists the light green and light red policy options.

Public Entity:

- Agriculture: By producing foodstuffs on Saba, transport costs as well as the wholesaler margin on Sint Maarten can be avoided. Moreover, agriculture makes Saba less vulnerable when international supply chains are distorted, such as during the Covid-19 crisis. The Dutch government can support the development of agriculture, both financially and with knowledge.[90] In fact, the Dutch government has allocated € 24 million for food security in the Caribbean for the next years.[91] However, Saba's location in the hurricane belt can make local food production vulnerable. Moreover, agriculture may only reduce prices of some fresh products, but Saba will remain dependent on imports of most goods.
- Renewable energy: The generation of renewable energy will ensure Saba becomes less dependent on fossil fuel imports. This can lower electricity prices, which will lower costs of retailers as well. Saba plans to realize a new solar park in 2026 as the third phase of Saba's energy transition. Although lower energy costs may lead to substantially lower retail margins and lower prices, this option is not included in the prioritized options as it is not targeted at lower retail prices.
- Communication and information: The Public Entity can publish information that is relevant for consumers to assume an assertive role. The Public Entity has done this in the past by carrying out and publishing price comparisons. The Public Entity can also publish information on certain price components, for example by publishing which goods are exempt from ABB and/or providing information about the tax system in general. As there are no signs that supermarkets are colluding or misusing their market power, this may not have a significant effect. Another option is to inform the public about the quality of off-brand groceries.
- Collective refrigerated truck (not recommended): A way to combat food loss related to the cooling facility is to purchase a refrigerated truck that retailers can jointly use to transport products from the harbor to their stores. Alternatively, the government could oblige retailers to climate-control trucks with perishable goods. However, as the trip from the harbor to the various supermarkets is short (1.5 to 5 km), no large effect on food loss can be expected.

- Price regulation (not recommended): In 2022 and 2023, the Public Entity carried out price comparisons. The increased transparency can lead to more competition and lower prices, although they can also be counterproductive in case supermarkets are tacitly colluding. A more radical solution is to regulate prices, as happened in 2015. Price regulation in the retail-food sector is highly complex to implement and has adverse effects. A literature review on price regulation is included in the remainder of this chapter.
- Government-owned cargo ship (not recommended): When goods are transported on a government-owned ship, excessive margins can be prevented. However, the major current cargo services currently serve multiple islands. It is thus likely that an efficient cargo service needs multiple destinations to get sufficient scale. As a result, it seems unfeasible for the Public Entity to operate its own cargo line. Moreover, there is already competition on the cargo line from Sint Maarten/Saint-Martin to Saba. A government intervention may disrupt this.

Government of the Netherlands:

- Competition and consumer protection law: The Caribbean Netherlands currently lacks competition and consumer protection regulation. Some other islands of the former Netherlands Antilles have implemented competition law and founded competition authorities: Curaçao in 2016-2017 and Aruba in 2023-2024. Sint Maarten has plans to introduce a competition law. For the Caribbean Netherlands, the Authority for Consumers & Markets (ACM) is the most logical party to take on this task. Although competition takes place among supermarkets, hardware stores and transport companies, they still have strong market positions. In the long run, competition and consumer protection regulation may help combating collusion and abuse dominant positions and protect consumers against unfair business practices.
- Subsidize energy: The Dutch government provides subsidies to lower electricity costs in the Caribbean Netherlands. The expenditure of the Ministry of Climate Policy and Green Growth on the Caribbean Netherlands amounted to € 17.8 million in 2024.[92] The Ministry's budget is € 5.5 million for 2025 and € 4.1 million for 2026 to 2029. Subsidizing energy may be effective in reducing the cost of doing business as well as providing relief to households.
- Regional cooperation: The World Bank, Food and Agriculture Organization of the United Nations and International Trade Centre all have already pointed out the opportunities provided by regional cooperation, integration, coordination and/or knowledge sharing.[93] Saba and the other Dutch Caribbean countries and public entities are already members of Association of the Overseas Countries and Territories of the European Union (OCTA) and associate members of the Association of Caribbean States (ACS).[94] Saba is not a member of the Caribbean Community (CARICOM), the Organization of Eastern Caribbean States (OECS, with mostly former British colonies) and the Community of Latin American and Caribbean States (CELAC). None of the other Dutch Caribbean islands are members of CARICOM (except that Curaçao is an associate member), OECS or CELAC.
  However, discussions with stakeholders did not result in any concrete proposals for joining a regional partnership. One stakeholder suggested to have a customs union or free trade area between the Caribbean Netherlands and Sint Maarten. In 2019, the secretary of state of the Interior and Kingdom Relations wrote: *"De eilanden en de autonome landen kunnen meer van elkaars voorzieningen profiteren als ze hun krachten en gezamenlijke massa bundelen. Met dit principe in gedachten treedt het kabinet met de landen en de openbare lichamen in overleg over het opzetten van een verdergaande douanesamenwerking tussen Aruba, Curaçao, Sint Maarten en Caribisch Nederland. Een vorm van vrijhandelsgebied of douane-unie kan een belangrijke impuls geven aan de groei van de handel en investeringen en*

de kosten van het levensonderhoud verlagen."[*][95] The Dutch government has not given updates on this intention. It is not yet clear what the current government's stance is on this issue.
Moreover, the feasibility of this issue is also dependent on the views and efforts of the Sint Maarten government. Although a customs union could lower the administrative burden for businesses, this policy option is not feasible on the short run.

- Public service obligation for cargo (not recommended): Analogous to the PSO for the ferry, the Dutch government could fund a PSO for cargo. However, the organization of a PSO will place significant demands on the public body. Moreover, Saba would become dependent on one single company in this scenario, even though the activities of Blessings Express illustrate that multiple businesses can compete on the transport market. The Orion's ability to ship (full) refrigerated containers also shows that competition is possible on the regional transport market. There may not be enough freight on the route to take advantage of the other benefit of a PSO, which is that it would allow the government to impose a timetable for cargo arrivals.

Country Sint Maarten:

- Remove BBO on all exports: If exports from Sint Maarten are exempt from BBO, this may lower the prices that Sint Maarten wholesalers charge to retailers. Although this may have an effect on retail prices on Saba, the policy option does not seem feasible. The newest Saba Package (November 2023) mentions that the "*Dutch State Secretary for Taxation is still in contact with the Minister of Finance of Sint Maarten to see if the BBO on exports can be abolished. This is, however, an autonomous responsibility of the country of Sint Maarten itself and the introduction of a general export exemption is complicated from a technical and practical point of view and has a significant budgetary impact on Sint Maarten.*"[96] There are concerns that these discussions will not lead to an outcome in the near future.
- Regulate wholesaler margins (not recommended): Sint Maarten regulates wholesaler prices by maximizing their margins on a basket of goods. However, this regulation is rather narrow as only products of certain brands and quantities are regulated. Price regulation is not recommended, as it can have adverse effects (see the literature review in the remainder of this chapter).

Businesses:

- Circumvent Sint Maarten wholesalers: Products can be imported directly from exporting countries instead of being purchased at Sint Maarten wholesalers. Hardware companies and one of the supermarkets already do this. In that case, the wholesaler margin can be avoided. A supermarket owner indicated in an interview that this may not make a large difference: although the gross wholesale margin leads to additional costs, the wholesalers can purchase large quantities so that they can get a better price at US wholesalers than Saban retailers can.
- Circumvent the US: Businesses could import goods from other regions than the US. Prices in Caribbean and Latin American countries are usually lower than in North America, and transportation costs and food loss could be lower as well.[97] The advantages of imports from the US, however, are the varied selection, the regular supply, the high quality and safety of products, and the competition on the North American market.
Some retailers already import from Puerto Rico. In June 2024, a trade mission was held to explore the possibility to import from Colombia to the Dutch

[*] *"The islands and the autonomous countries can benefit more from each other's facilities if they join forces and their collective mass. With this principle in mind, the government will enter into consultations with the countries and public entities on setting up further customs cooperation between Aruba, Curaçao, Sint Maarten and the Caribbean Netherlands. A form of free trade area or customs union can give a significant boost to the growth of trade and investments and reduce the cost of living."*

Caribbean.[98] Some retailers have plans to order directly in the European Netherlands.

- Joint purchasing: Businesses can increase their bargaining power when they order products collectively. Collective purchasing is also helpful to circumvent Sint Maarten wholesalers and order directly at the exporter in the country of origin. When full containers can be imported from the country of origin, the cool chain is better protected as well. However, most retailers indicated in the interviews that they do not consider this option likely.
- Ship from other islands: Sint Maarten is not the only island in the region with a large port (see Table 3). The costs of importing from other islands can be lower. Businesses already ship certain items from Puerto Rico. Prices on many other islands in the region, however, are high as well. According to World Bank price level data for 2017, prices on Sint Maarten are lower than those on many of the other islands in Table 3 (although the French and US non-sovereign territories are not in the World Bank data set).[99] Several stakeholders confirmed that it is not easy to organize transit or use wholesalers on different islands. Reasons that are given for this are the differences in supplied products with Sint Maarten, the lack of connections to other islands due to large distances, and the high taxes on some islands.
- Air transportation (not recommended): An alternative to marine transportation is to import on cargo planes rather than ships. As Saba's airport is too small for international connections and the Princess Juliana airport on Sint Maarten has no cooling facilities, this mode of transportation does not seem suitable for fresh produce.

Evidence from the literature

The remainder of this chapter summarizes the findings in the literature about a number of policies that are widely used globally to combat high prices. These are price control policies, and competition law and price transparency.

Price control policy

Regulating prices is a ubiquitous measure in emerging markets and developing economies (EMDEs). Oftentimes the goal is to increase the purchasing power of lower income households. Despite its good intentions, there are concerns that price regulation may have potentially harmful consequences and should, therefore, only be considered as a 'last resort'. This section explains not only the theory behind price regulation, but also illustrates that, in practice, the costs can be higher than the benefits.[100]

Different types of price controls are prevalent in different types of countries[101]
Price controls can be implemented in different formats such as price ceilings (maximum prices) or price floors (minimum prices). Price control measures can also occur complementarily to another government policy, or be implemented on selected products only. Sometimes, price control measures are part of price smoothing programs to combat highly volatile prices on international markets. In that case, price controls are less about controlling the price of a product, but more about reducing uncertainty about real income for households and production costs for firms. In most cases, however, price controls are meant to serve a social interest. Price controls can be imposed on different kinds of products:

- Price controls on goods and services: Price controls on goods and services are relatively common in EMDEs, especially for energy and food. Although less common, they do occur in advanced economies, where the focus lies mainly on utilities and telecommunications.
- Price controls on exports and imports: EMDEs, including low income countries (LICs), frequently impose price controls on both import and export goods to stabilize domestic prices and protect consumers. In LICs, a significant portion of energy imports and construction materials are subject to price controls, while in other EMDEs, this is less common. Export price controls are also prevalent in EMDEs, particularly for countries dependent

on single commodity exports. Advanced economies rarely impose such controls on imports or exports.

- Price controls on financial products and services: Price controls in the financial sector are common in EMDEs, with around 60 countries capping interest rates to support key industries or protect consumers from high borrowing costs. For instance, Zambia implemented interest rate caps from 2012 to 2015 to prevent over-indebtedness and improve access to credit. Advanced economies, however, generally abstain from imposing such controls on financial products.

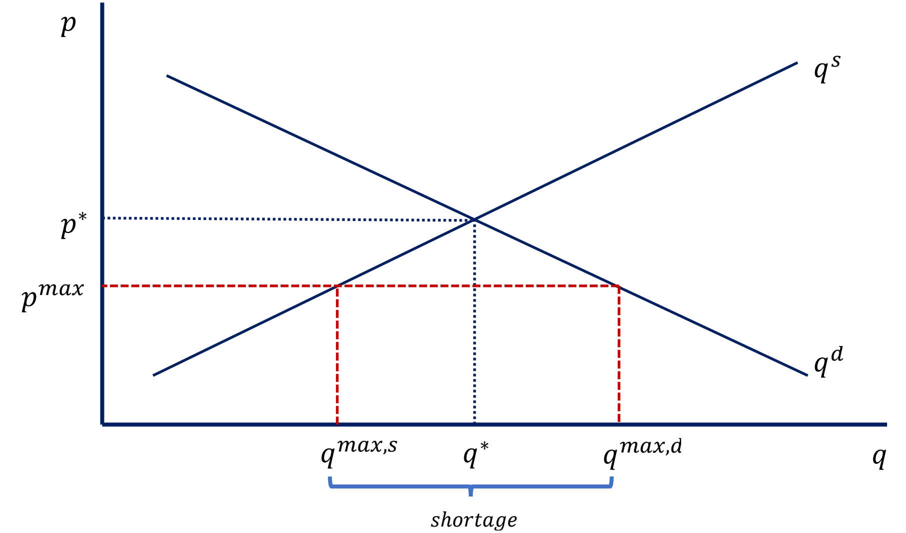
Price regulation aims to create more purchasing power for consumers[102]

The intention behind the regulation of prices is primarily to increase the purchasing power of lower income households. The intended effect of a maximum price is to establish a lower price level for those products that are too expensive in an unregulated market.

According to economic theory, a maximum price only has an effect if it is lower than the equilibrium price. In this case, the maximum price is lower than the equilibrium price of the product in an unregulated market. Therefore a new, lower price is reached that consumers have to pay for the product.

In this situation, however, the supplied quantity is unequal to the demanded quantity of the product. At a lower price, more consumers are willing to purchase the product whilst fewer suppliers are willing to sell it, causing a shortage of the product in question. This shortage is (theoretically) stronger for luxury goods than for necessity goods, as the demand of consumers for luxury goods depends more on the price than the demand for necessity goods. Because of the shortages, some stores will be unable to supply those products on which a maximum price is imposed. It is also possible that the loss that stores make on these products is compensated by higher prices for other products. This phenomenon is called 'cross subsidization'. Stores might also try to compromise the quality of the product to drive down their costs and thereby reduce their losses.

Figure 19 Maximum prices drive down the market price but may lead to empty shelves in supermarkets. $\boldsymbol{q}$ denotes quantity, $\boldsymbol{p}$ denotes the price, $\boldsymbol{q^s}$ ($\boldsymbol{q^d}$) denotes the supply (demand) curve with the supplied (demanded) quantities for different prices, $\boldsymbol{p^*}$ and $\boldsymbol{q^*}$ denote the equilibrium price and quantity in an unregulated market, $\boldsymbol{p^{max}}$ denotes the maximum price and $\boldsymbol{q^{max,s}}$ ($\boldsymbol{q^{max,d}}$) denotes the quantity supplied (demanded) at the maximum price.



Source: Amsterdam Bureau for Economics (2024).

This analysis only holds for a competitive market; in a market dictated by a monopolist, a maximum price has the potential to successfully decrease excessive margins. The monopolist can then adjust its supplied amount to maximize profits. This works only if the price is not too low; a price that does not allow the monopolist to cover its costs can cause it to leave the market entirely.

If market prices are lower than the imposed maximum price, the maximum price is either ineffective, in which case prices remain unchanged, or a has negative effect. In the latter situation, market participants may start to treat the maximum price as a guideline, so that prices are higher than before the implementation of the price regulation.

Maximum prices on Curaçao, Aruba and Sint Maarten[103]

Curaçao, Aruba, and St. Maarten have similar price regulations to the *Prijzenwet BES*. On Aruba, according to de *Prijzenverordening (AB 1991 no. GT 17)*, the Minister of Economic Affairs is allowed to control prices if they conflict with the public interest. On Curaçao and Sint Maarten, the Ministers of Economic Development and Economics, Transport and Telecommunications, respectively, have similar powers.

On Aruba, Curaçao and Sint Maarten, some essential goods have regulated maximum wholesale and retail prices set by the Ministry. Importers must provide the Ministry with invoices of all products for which a maximum price is implemented. The Ministry then calculates maximum prices based on preset wholesale and retail profit margins; the so called *landed costs*; or the CIF price, including import duties. The CIF price consists of all costs including transportation and insurance costs.

When CIF prices increase over time and the importer wants to raise the maximum price, the importer is required to officially notify the authorities with this request. If CIF prices drop, the authorities have the power to decrease the maximum price, without the need for a request from the importers.

Maximum prices based on landed costs used in the Caribbean potentially have adverse effects

The system of maximum prices based on the *landed costs* (or the CIF price, see the textbox above) more often than not leads to higher rather than lower retail prices. Several factors drive this mechanism:[104]

- The follow-up effect: A request (and approval) to raise the maximum price by one supplier results in other suppliers following suit with a similar price increase, even when they still have the product in stock at the old price or are able to purchase it at the original cost. Results from empirical studies in Curaçao show that this happens in practice.
- The reference effect: The maximum price may be perceived as a fixed price, causing companies to raise their prices accordingly.[105]
- Perverse incentives: Maximum prices based on landed costs disincentivize to increase efficiency in buying from wholesalers and logistics; it even incentivizes buying products at an increased wholesale price since higher import costs lead to a higher margin and thus higher profits. This is not corrected by a decrease in demand since maximum prices are imposed on basic goods which have a low price elasticity.
- The coordination effect: Maximum prices may facilitate 'implicit' cartels; periodical publications of different prices then function to inform the cartel about which market participants deviate from the implicitly agreed price.
- The quality effect: Entrepreneurs can reduce the quality of their products in two ways: (1) clandestine usage of cheaper ingredients of poorer quality and (2) changing the product in question to the extent that it no longer fits the legal description.
- The rationing effect: Selling products subject to maximum prices may be unprofitable for supermarkets. They may choose to lower their supply of this product, causing empty shelves. This effect is amplified when maximum prices are not adjusted properly to changing import prices.

Price controls also have the potential to hinder economic growth. Maximum prices lower producer margins, drive down domestic investment and discourage entrepreneurial spirit. Furthermore, measures of price control distort the proper allocation of resources towards the sector in which the maximum prices have been implemented, leading to higher income inequality and a reduction of productivity. Empirical research in the Middle-East and North Africa has shown that price controls combined with subsidies have detrimental effect on output growth per capita.[106]

Adverse effects of price regulation can be avoided under certain circumstances[109]

In order to establish an effective and efficient regulatory measure, the negative effects of the aforementioned price regulations need to be minimized. That means that a system of price regulations needs to fulfill five important requirements. It needs to:

1. Minimally affect the freedom to conduct business: Entrepreneurs must be affected by the price regulation to a minimal extent; price regulations should only affect their ability to make excessive profits.
2. Be compatible with the existing market structure: A system of price regulation should reflect the incentives that exist in a competitive market. If, for instance, a policy to control prices disincentivizes cost effectiveness, the behavior of producers no longer aligns with how they would normally behave in a competitive market structure. This potentially harms the consumer.
3. Be dynamic: A price control mechanism needs to be designed in such a way that it can be easily phased out once the market recovers and there is sufficient downward pressure on price levels.
4. Cost as little as possible: For a price regulation to be worthwhile the costs for the government need to match the social benefits; a maximum price cannot be accompanied by disproportionately high implementation costs.
5. Avoid regulatory capture as much as possible: This means that the regulator in question, usually the government or a governmental agency, starts acting in the interests of the regulated party, rather than the public interest.

When considering the design for an alternative mechanism to regulate prices on Saba, it is important that the responsible authorities attempt to maneuver within a framework that abides by these five standards.

Historical implementations of maximum prices for basic goods on Saba and Bonaire

In 2015, an agreement was reached between the public entity of Saba and the three biggest supermarkets on the island; Unique, My Store and Big Rock. This agreement consisted of setting maximum prices for 16 basic needs products to stabilize the purchasing power of consumers. In reality, the results of these maximum prices were mixed, especially regarding the agreement. Whereas supermarket owners said to adhere to the maximum prices, the agreements were not monitored properly, leading to limited effects. At the moment, price regulations are no longer in place. Some supermarkets still charge lower margins on basic goods than on non-basic goods.[107]

On Bonaire, similar measures were taken. However, these also failed to accomplish the desired results. In 2014, maximum prices were set for 36 essential food products. However, supermarket owners pointed out that, as a result from the maximum prices, they had to offer the products below cost, which led to losses.[108] As a result, the price regulation was discontinued, but maximum prices were reintroduced in 2020 (*Besluit Prijsstop Bonaire 2020*).

Competition law and price transparency

Competition law can be of great importance in small island economies

The effects of imperfect competition can be magnified in smaller economies.[110] A small market, like the one on Saba, reaches the point of market saturation quicker, making it unattractive for new brands and suppliers to join the market. In this case, suppliers have strong market positions (monopolies or oligopolies) and may take advantage of these positions. Competition and consumer protection regulation can combat this behavior.

On the other hand, exceptions to usual competition law will be more prevalent in small island economies.[111] Due to the small market on Saba, it is harder to reach economies of scale.[112] Monopolies or duopolies might be more efficient in some cases, and an effective competition law for small islands should respect the balance between allowing firms to reach economies of scale, and allowing enough competition to take place.[113] As finding this balance is challenging, competition policy on a small island like Saba might be even more important than in larger economies.

Increased price transparency can have both positive and adverse effects on price levels

Classic economic theory predicts that more transparency enhances competition in the market. When consumers are aware of price differences, they will purchase the good at the best price.[114] Reliable information about prices also enhances consumers' perception of fairness in the market.[115] In real life this is more complicated, as gathering information is time consuming, and consumers go to the supermarket to buy a bundle of goods, not just one product. Another complicating factor is that price transparency might also be used by colluding parties to inspect whether other competitors are setting prices on the agreed level. Price transparency can, in a concentrated market, lead to strategic pricing in an oligopoly setting.[116]

Other Caribbean countries implemented antitrust laws, but the successes are varying

Multiple other Caribbean countries have started with the implementation of antitrust laws and bodies. Their experience provides valuable insights in the challenges that come with the implementation of an antitrust system in a small island economy.

Curaçao, The Bahamas, and Aruba all implemented competition law in the last ten years. Curaçao implemented antitrust laws in 2017, together with the foundation of the Fair Trade Authority Curaçao (FTAC). The Bahamas followed in 2020, and Aruba in 2024. All three countries qualify as SIDS, but their populations are still significantly larger than that of Saba. From evaluations it appears that both Curaçao and The Bahamas struggled with a shortage of staff and funding, which contributed to both competition authorities not achieving all their goals.[117] In addition, attracting qualified staff and board members who can operate independently in small society is a challenge. For both countries it is not yet possible to measure the effects on prices, as there is no available data and the policies are both quite new. Amsterdam Bureau for Economics concluded in a 2024 study that the presence of antitrust laws and a fair trade committee has improved the investment climate of Curaçao.[118]

Barbados was one of the first Caribbean countries to implement antitrust laws and to install a committee for fair trade. Barbados has a larger population than Saba, and a Fair Trade Act was implemented in 2003. The Fair Competition Authority (FCA) enforces the provisions in the fair trade act. The FCA can be considered one of the best functioning competition authorities in the Caribbean, but is still faced with challenges characteristic to small island economies, such as the entanglement of social and business activities and the lack of local understanding on the benefits of competition policies.[119]

An important lesson learned from the implementation of competition policies in Barbados and Curaçao is that competition advocacy is key. Competition advocacy is about informing the public (consumers, companies) on the benefits of competition and competition policy and is about (unsolicited) advising the government on competition matters. Competition advocacy by the FTAC in Curaçao resulted in the removal of anti-competitive agreements by several industry organizations in Curaçao. Aruba invests a lot in competition advocacy as well. At the same time, competition advocacy alone is not sufficient to combat anti-competitive behavior. A competition authority must also show its teeth—something that, for the aforementioned reasons, has not yet been adequately achieved in Curaçao.

The Caribbean Community (CARICOM) introduced the Caricom Competition Commission (the CCC) in 2008. Based on new articles in the founding treaty of CARICOM, the commission's goal was to make sure that the benefits expected from trade between member states are distributed fairly, and not wasted because of anti-competitive behaviour. The content of the anti-competitive agreements are comparable to the rules the European Union implemented on the same topic. CARICOM only deals with cross-border competition, but its member states are bound to implement their own national competition policies as well.[120] The CCC has the authority to render any agreement that is not allowed under the CARICOM treaty as void, and to impose fines on firms in breach with the treaty, as per article 175 of the Treaty of Chaguaramas.

Saba is not a member of CARICOM, and therefore the CCC does not interfere when its members are trading with Saba. However, if the ACM were to become active in the Caribbean Netherlands, it might benefit from cooperation with the CCC.

Appendix A. Supplementary tables and figures

Socioeconomic tables and figures

Negative real GDP growth and a decline in real GDP per capita characterized Saba's economy between 2012 and 2022

Table 12 Despite years of economic growth, real GDP growth has decreased on Saba between 2012 and 2022.

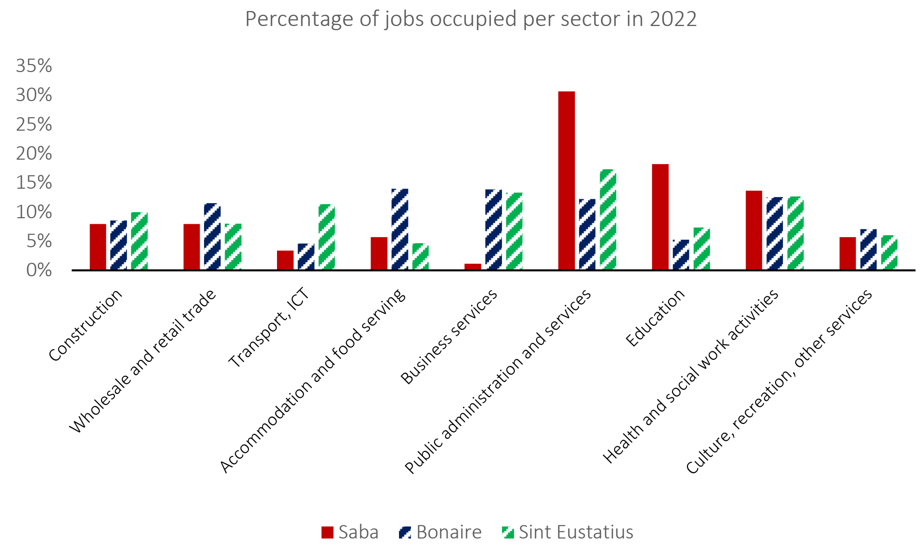
Indicator	Public entity	'12	'13	'14	'15	'16	'17	'18	'19	'20	'21	'22
Real GDP (millions of $, 2017 prices)	Saba	46	48	48	49	48	48	46	44	41	42	43
	St. Eustatius	*139*	*140*	*130*	*135*	*133*	*142*	*125*	*115*	*85*	*103*	*92*
	Bonaire	*443*	*453*	*461*	*476*	*487*	*480*	*499*	*531*	*486*	*543*	*590*
Real GDP/ capita (in $ 1,000, 2017 prices)	Saba	23.3	24.1	26.0	27.1	24.7	23.9	21.3	23.0	21.2	21.9	22.5
	St. Eustatius	*36.7*	*35.9*	*32.3*	*34.8*	*41.7*	*43.7*	*37.3*	*36.6*	*27.1*	*32.8*	*28.4*
	Bonaire	*26.8*	*26.0*	*25.0*	*25.2*	*25.1*	*25.0*	*25.5*	*26.4*	*23.2*	*25.0*	*26.1*
Real GDP growth (in %)	Saba		5.5	-0.2	1.2	-0.5	-1.4	-2.5	-5.3	-6.3	3.0	1.5
	St. Eustatius		*0.8*	*-6.8*	*3.2*	*-1.0*	*6.6*	*-12*	*-8.6*	*-26*	*21*	*-11*
	Bonaire		*2.4*	*1.6*	*3.4*	*2.2*	*-1.3*	*3.9*	*6.3*	*-8.4*	*12*	*8.8*

Source: Amsterdam Bureau for Economics (2024) based on CBS (2024).

- **Economic decline on Saba**: The economy of Saba has shown an unfavorable development since 2012. Throughout the period 2013-2022, Saba's real GDP only increased in 2013, 2015, 2021 and 2022. In all other years, economic decline took place. As a result, Saba's real GDP (both in total and per capita) was smaller in 2022 than in 2012.
- **Situation similar on Sint Eustatius, better on Bonaire:** The GDP of Sint Eustatius also declined between 2012 and 2022, both in total and per capita. Bonaire however benefited from economic growth during every year in that time span, except for 2017 and 2020. Still, GDP per capita on Bonaire did not keep up with rising prices, so that real GDP per capita declined.

Most people on Saba work either in education, health of public administration

Figure 20 Education and public administration represent the largest share of the labor market on Saba. Some sectors represent less than 1 percent of the labor force and are as such excluded from this analysis.



Source: Amsterdam Bureau for Economics (2024) based on CBS (2024).

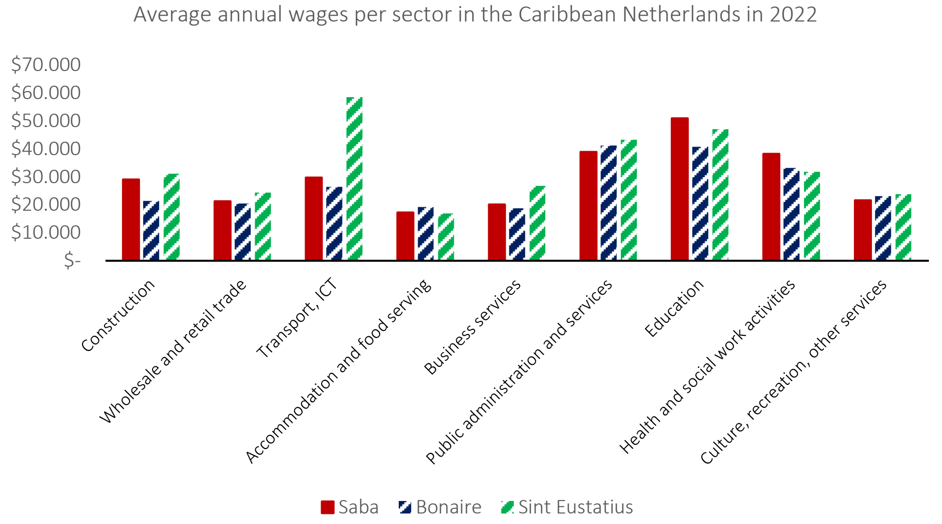
- **Public administration largest employer:** With over thirty percent of jobs, public administration employs the largest share of working population of Saba. This sector is almost twice the size of the second largest sector, education, and more than twice as large as the third largest, health and social work.
- **Public, education and health sectors over sixty percent of employment:** Currently, the three most important sectors, public administration, education and health and social work activities, are larger than the other sectors

combined. Other significant sectors are construction and wholesale/retail trade, both representing 8 percent of the labor market.

- Education and public services prominent compared to the other islands: Whereas the share of the labor force working in public administration is approximately twice as large on Saba as on Bonaire and Sint Eustatius, this difference is even more sizeable for the educational sector. Whilst on Saba 18 percent works in education, on Bonaire and Sint Eustatius this is only 5 and 7 percent respectively.
- Transport, accommodation/food services and business services smaller: The transport/ICT, accommodation/food services and business services sectors represent a significantly smaller share of the labor market than on Bonaire and/or Sint Eustatius.

Average annual sectoral wages relatively comparable to other islands

Figure 21 As of 2022, wages in all sectors are relatively comparable to those on other islands, except for the transport/ICT sector.



Source: Amsterdam Bureau for Economics (2024) based on CBS (2024).

- Wages on Saba in most sectors relatively comparable to those on Sint Eustatius and Bonaire: Despite differences in some sectors, wages are overall comparable to those on Bonaire and Sint Eustatius. However, wages in the ICT and transportation sector on Saba and Bonaire are approximately half those on Sint Eustatius. This is probably due to the oil handling activities on Sint Eustatius.
- Wages on Saba highest only in two sectors, and lowest in two sectors as well: Despite featuring the highest average wage level in the Dutch Caribbean, wages on Saba are only highest in two sectors: education and

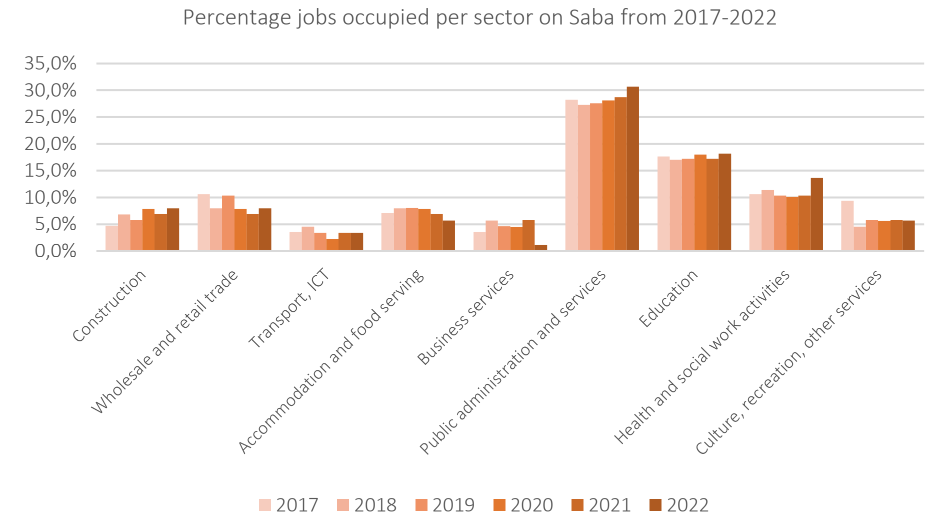
Appendix A. Supplementary tables and figures

health/social work activities. Saba even offers lowest average wages for two sectors: culture/recreation/other services and public administration.

- **High average wage highest result of sectoral composition**: The high average wages compared to Bonaire and Sint Eustatius are a result of the structure of the economy. This is shown by the fact that average wages are higher on Saba than on Bonaire and Sint Eustatius while wages per sector are comparable. Figure 20 confirms this: the public, health and education sectors are relatively more sizeable employers than on Bonaire and Sint Eustatius. These are relatively well-paying sectors.

The sectoral composition of Saba's labor maket is stable

Figure 22 The composition of the labor market on Saba mostly remained intact since 2017.

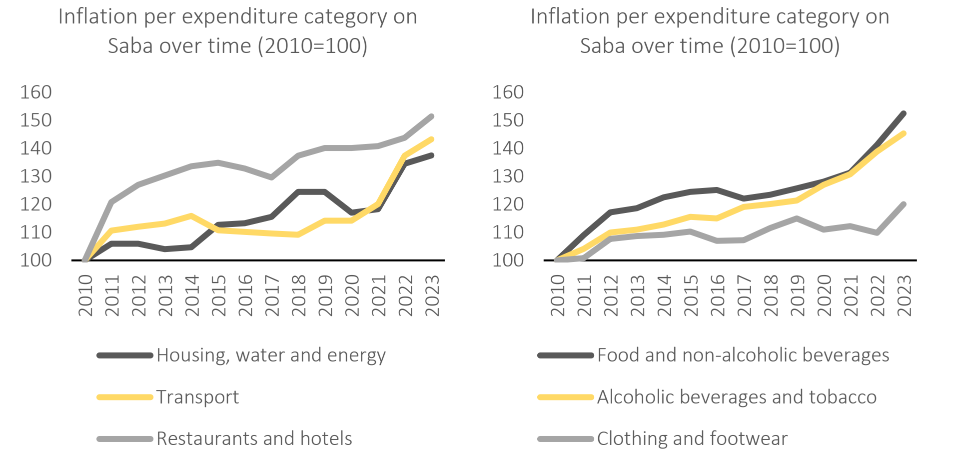


Source: Amsterdam Bureau for Economics (2024) based on CBS (2024).

- **Composition of the labor market on Saba remained relatively constant:** Despite some small compositional changes, the three largest sectors in 2017 are still the most prominent on the labor market. The amount of people working in each of the three sectors has even increased over the past five years.
- **Share of workers in trade and culture/recreation declined:** The share of the population working in the wholesale/retail trade and the culture/recreation sectors has decreased. In 2017, 11 percent of the labor force worked in wholesale/retail trade and 9 percent worked in culture/recreation. As of 2022, these percentages fell to 8 and 6 percent respectively.

Prices have increased steadily in some expenditure categories, whereas they have been more volatile in others

Figure 23 Some expenditure categories have featured deflationary periods over the past thirteen years, whereas others have not.



Source: Amsterdam Bureau for Economics (2024) based on CBS (2024).

- Different price development patterns for expenditure categories: The prices of different expenditure categories can develop differently. For example, the category of food/non-alcoholic beverages, of alcohol and tobacco and of restaurants and hotels increased every year except for 2016 and/or 2017. Prices in the other expenditure categories (housing, water and energy; transport; clothing and footwear) developed in a more volatile manner, with deflation during multiple years. In the period 2022-2023, prices of all categories increased.

Details of comparison with Sint Maarten

The products in the price comparison are selected from a larger group of items

The table below shows the products, brands and (if applicable) specifications of the products in the price analysis between Saba and Sint Maarten. Only products were included with observations on both Saba and Sint Maarten. In some cases, the comparison was possible for different specifications of the same product (for example, both 20 oz and 32 oz ketchup). In these cases, the specification was chosen with the highest amount of observations. When several specifications had the same amount of observations, the specification was chosen with observations in the cheapest supermarkets on Saba (where Big Rock is the cheapest, followed by Unique). Chicken thighs and whole legs by Bouquet were left out as well, to prevent chicken of that brand from being overrepresented in the analysis. The remaining chicken items (split breasts and drumsticks by Bouquet) correspond to the products of interest.

A regression was used to calculated the percentage difference

These 21 products led to a dataset with 84 observations. A linear regression was carried out on the logarithms of the prices of these observations, with dummy variables for all products and a dummy variable for observations on Saba. The coefficient for the dummy variable for Saba was 0.2612, with a standard error of 0.0271. This means that the 95-percent confidence interval is 0.2073-0.3151. When these logarithmic results are converted to percentages, it turns out that prices on Saba are 29.85 percent higher than on Sint Maarten, with a bandwidth of 23.04 to 37.04 percent. It should be noted that this regression is not a causal inference about cost drivers on Saba, but merely serves to calculate the average price difference between Saba and on Sint Maarten.

Table 13 Prices of 21 specific products were compared on Saba and in Sint Maarten.

Product	Brand	Specification	Quantity	Observations
Dish liquid	PalmOlive	Ultra Strength	591 ml/20 oz	5
All-purpose cleaner	Disiclin	Lemon	828 ml/28 oz	4
Ketchup	Hunts		907 g/32 oz	4
Peanut butter	Jif		793 g/28 oz	5
Luncheon meat	Spam	Classic	340 g/12 oz	5
Rice	Mahatma		4.54 kg/10 lbs	5
Plant-based oil	Wesson	Vegetable Oil	710 ml/24 oz	3
Milk	Président	Demi-écrémé (bottle)	1 l	4
Toilet paper	Soft weave		6 rolls	4
Garbage bags	Rhino	Biobags	10 bags; 46 gallons	4
Chicken split breasts	Bouquet		2 lbs	2
Chicken drumsticks	Bouquet		2 lbs	2
Petroleum jelly	Vaseline		7.5 oz	5
Beans	Goya	Red kindney beans	439 g	5
Soup	Campbell	Cream of chicken soup	298 g/10.5 oz	5
Cookies	Oreo	Milk's favorite cookie	367 g/13.29 oz	4
Coffee	Nescafe	Instant coffee	85 g	4
Tomato paste	Hunts		510 g	4
Hazelnut spread	Nutella		230 g	3
Peanuts	Planters		12 oz	4
Tea	Lipton	Green tea Mint	36 g	3

Source: Amsterdam Bureau for Economics (2024).

Appendix A. Supplementary tables and figures

Details of price components calculation

Table 14 A price analysis was carried out for nine products.

General			Retail			Wholesale			ABB	
Product	Chilled	Products/box	Price	Supermarket	Date	Price	Wholesaler	Datum	Wholesale price	Transport
Red grapes (kg)	Yes	8.2	$ 10.95	Big Rock	September 2023	$ 54.38	Prime (website)	September 2023	No	Yes
Green sweet pepper (kg)	Yes	11.3	$ 6.50	Big Rock	November 2023	$ 35.35	H&R (invoice)	October 2023	No	Yes
Broccoli (kg)	Yes	9.1	$ 9.95	Big Rock	September 2023	$ 43.05	H&R (invoice)	October 2023	No	Yes
Onions (kg)	Yes	22.7	$ 3.50	Big Rock	November 2023	$ 35.34	Prime (invoice)	October 2023	No	Yes
Lettuce (3 pieces in a bag)	Yes	12	$ 4.95	Big Rock	November 2023	$ 36.40	H&R (invoice)	October 2023	No	Yes
Ribs (kg)	Yes	10	$ 7.50	Big Rock	September 2023	$ 45.00	Divico (website)	March 2024	No	Yes
Luncheon meat (Spam, 12 oz)	No	24	$ 5.00	Big Rock	October 2024	$ 107.67	Prime (website)	May 2024	No	Yes
Peanut butter (Jif, 12 oz)	No	12	$ 3.95	Big Rock	November 2023	$ 32.61	Prime (website)	December 2023	Yes	Yes
Rice (Mahatma, 5lb)	No	8	$ 6.25	Big Rock	September 2023	$ 31.83	Prime (website)	March 2024	No	Yes
Ketchup (Hunts, 20 oz)	No	12	$ 3.95	Big Rock	September 2023	$ 24.51	Prime (invoice)	October 2023	Yes	Yes
Canola oil (Wesson, 48 oz)	No	9	$ 10.15	Unique	October 2024	$ 61.28	Prime (website)	April 2024	No	Yes
Semi-skimmed milk (Président, 1-liter bottle)	No	12	$ 3.00	Big Rock	October 2024	$ 24.11	Prime (invoice)	October 2023	No	Yes
Toilet paper (Fiora, 12 rolls)	No	1	$ 12.25	Big Rock	November 2023	$ 9.00	Divico (website)	June 2023	Yes	Yes
Paper towels (Fiora, 1 roll)	No	12	$ 2.25	Big Rock	November 2023	$ 12.50	Divico (website)	October 2023	Yes	Yes
Cleaning agents (Fabuloso, 28 oz)	No	12	$ 3.25	Big Rock	November 2023	$ 17.83	Prime (website)	December 2023	Yes	Yes

Source: Amsterdam Bureau for Economics (2024), based on price comparisons by the Public Entity, price comparisons by Amsterdam Bureau for Economics, websites and invoices of Sint Maarten wholesalers, and legal/governmental information.

Appendix A. Supplementary tables and figures

Product categories in the COMTRADE data

The data about the origin of products is derived from the COMTRADE data set, which is collected by the United Nations and publicly available online. All products included in the data set are divided into groups, which are distinguished by codes. The product codes used are shown in the table below.

The codes are grouped, and do not exclusively include the products mentioned in the table. One code can thus be used for multiple products, such as 0207 for chicken products. There is no specific code for chicken wings or chicken breasts.

A code consists of four digits at least and eight at most. The more numbers, the more specific the code. Specific codes have a higher propensity to be miscoded. Therefore, in line with previous research by Ecorys in 2017, this research uses generic codes where possible.

There was no product category available specific enough to include pork in this research, so pork was not included in the analysis. For other products of interest that did not seem to be included in the dataset, the closest alternative has been selected. Moreover, data for the sweet pepper was not available in the COMTRADE data, so this product is not included in the data either.

Table 15 The products of interest in this study are connected to COMTRADE product categories.

Product	Code	Product category
Fresh		
White grapes	0806	Grapes; fresh or dried
Bananas	0803	Bananas, incl. plantain, fresh/dries
Sweet Pepper	090420	Fruits of the genera capsicum/Pimenta, dried/crushed/ground
Broccoli	070410	Vegetables, brassica; cauliflowers and broccoli, fresh or chilled
Onions	0703	Onions, shallots, garlic, leeks other alliaceous vegetables; fresh or chilled.
Lettuce	0705	Lettuce (lactuca sativa and chicory; fresh or chilled
Frozen		
Chicken filet	0207	Meat and edible offal of poultry; fresh, chilled or frozen.
Drumsticks/chicken leg	0207	Meat and edible offal of poultry; fresh, chilled or frozen.
Chicken wings	0207	Meat and edible offal of poultry; fresh, chilled or frozen.
Ribs	0201	Meat of bovine animals; fresh or chilled.
Minced Meat	0201	Meat of bovine animals, fresh or chilled
Long shelf-life		
Canned pork	-	
Peanut butter	200899	Fruit, nuts and other edible parts of plants; prepared or preserved, whether or not containing sugar.
Rice	1006	Rice
Ketchup	210320	Sauces; tomato ketchup and other tomato sauces
Plant based oil	151511	Vegetable oils; linseed oil and its fractions, crude, not chemically modified.
Milk	401	Milk and cream; not concentrated, not containing added sugar or other sweetening matter
Domestic non-food		
Toiletpaper	4818	Toilet paper, width 36cm or less.
Napkins	4803	Tissue towel, napkin stock or similar
Dishwashing detergent	340119	Soap and organic surface-active products; in the form or bars, cakes, mouled shapes, impregnated, coated or covered with soap or detergent, not for toile tuse.
Garbage bags	392329	Plastic sacks and bags, for the conveyance of packing of plastics.
Cleaning agents	340250	Washing and cleaning preparations, powders, flakes and granules. Surface-active, whether or not containing soap.

Source: Amsterdam Bureau for Economics (2024), based on COMTRADE data.

Appendix B. References

Appendix B. References

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