

Labor productivity as a driver of growth

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Table of Contents

1. Introduction
2. Measuring labor productivity
3. Labor productivity as a driver of growth
4. Ways to improve labor productivity
5. Labor productivity in Curaçao
6. Curaçao's productivity in an international perspective
7. Conclusion



Introduction

*“High productivity **growth** means a strong potential or sustainable growth rate for the economy. It lowers unit labor costs, boosting profits, and helping contain price inflation. And productivity is the basis for longer-term improvements in standards of living.”*

Ethan Harris

Bank of America Merrill Lynch’s top global economist

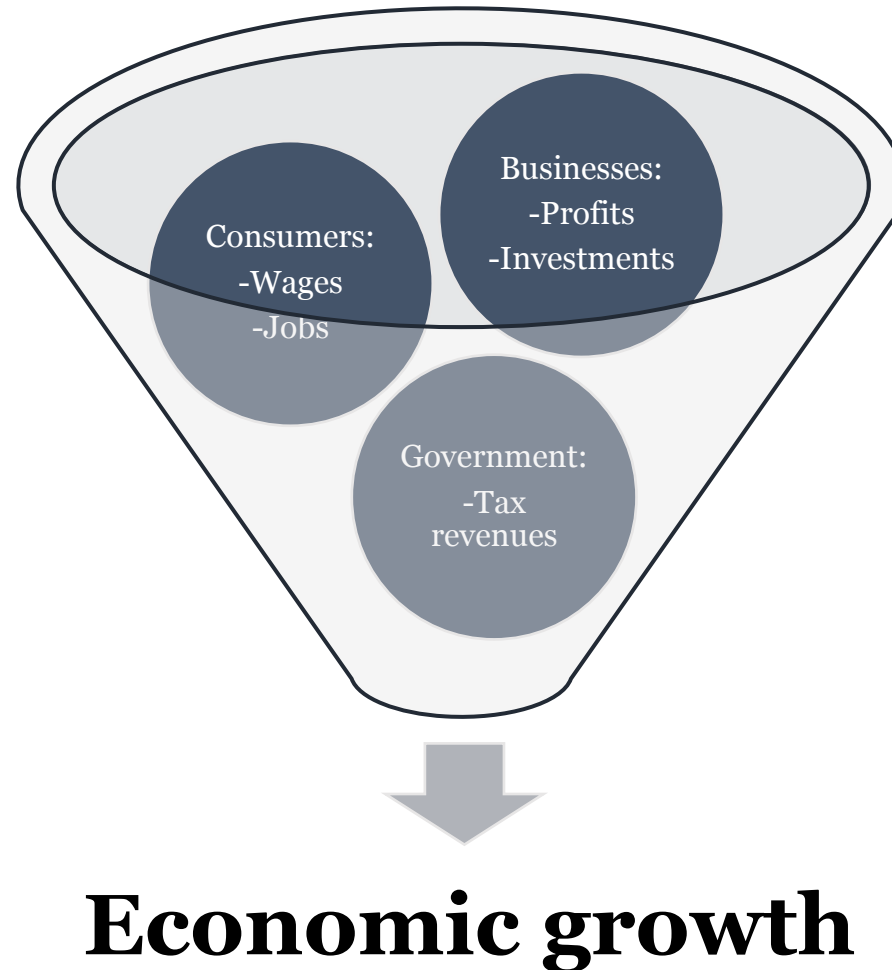


Measuring labor productivity

- GDP/GVA per capita
- GDP/GVA per worker
- GDP/GVA per hour



Labor productivity as a driver of growth





Ways to improve labor productivity





Labor productivity in Curaçao

Research conducted by the CBCS (updated by March 2018)

Measuring labor productivity in Curaçao

- Contribution of labor productivity and employment/hours to growth
- Decomposition labor productivity growth
 - Have sectors become more or less productive?
 - Have employment shares shifted to more or less productive sectors?



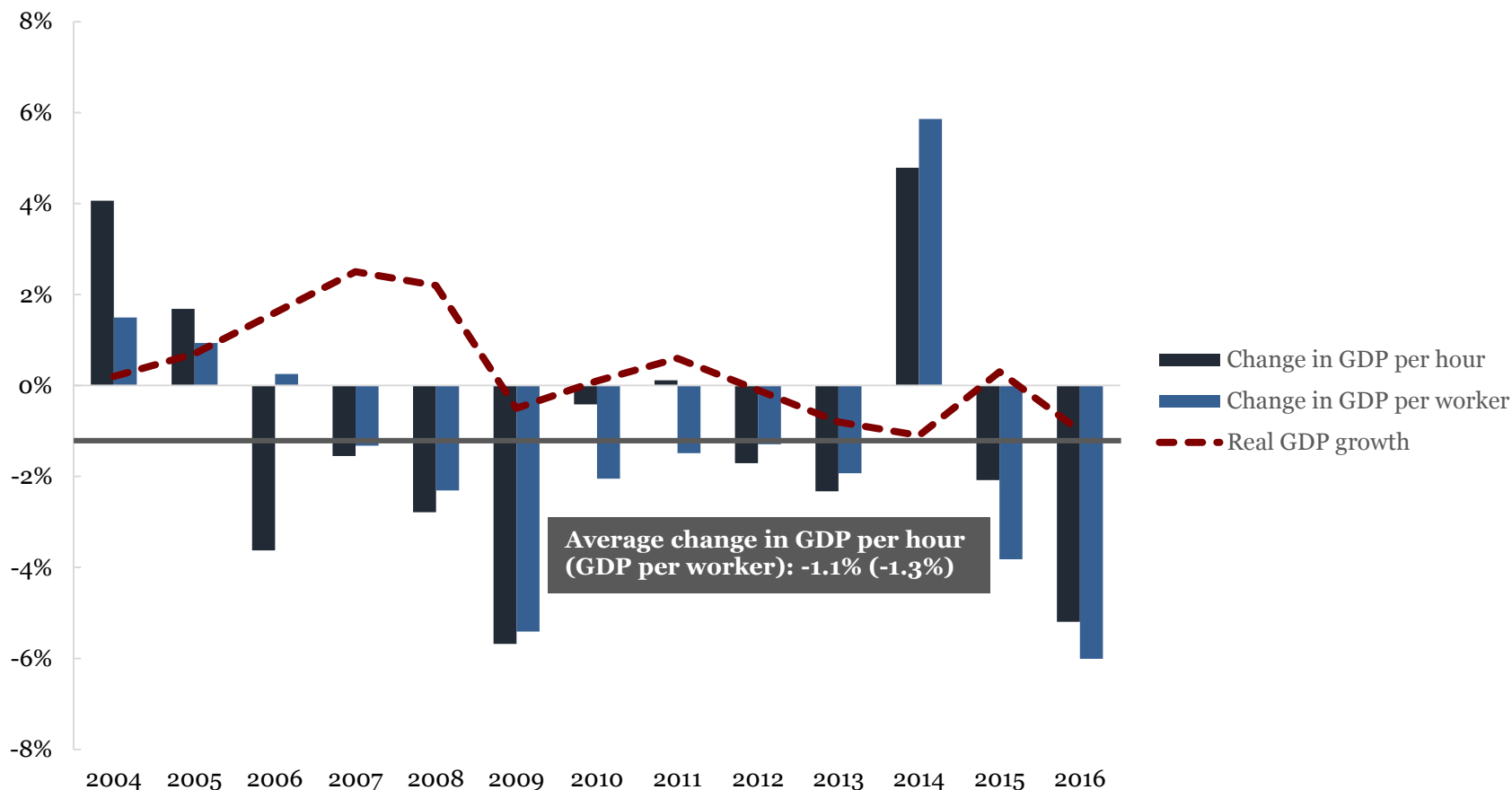
Labor productivity in Curaçao

- Data from the Central Bureau of Statistics
- Three 5-year periods during 2004-2016
- GDP/GVA at constant prices (2000 = 100)
- 2010/2012: linear interpolation for # workers and hours



Labor productivity in Curaçao

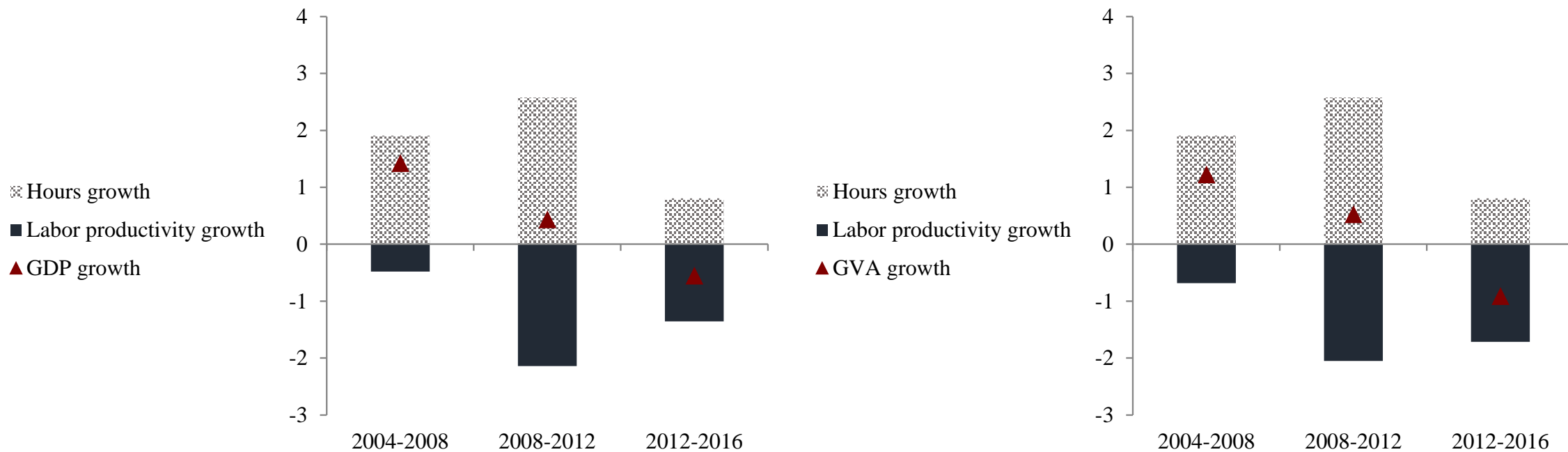
No significant differences between the two methods...





Labor productivity in Curaçao

...Negative contribution of labor productivity



where Labor productivity is measured as GDP/GVA per worker/hour

GDP/GVA growth is the sum of employment/hours growth and GDP/GVA per worker/hour

Similar to the Conference Board, the variables are measured in log differences.



Labor productivity in Curaçao

$$\frac{P_t - P_{t-1}}{P_{t-1}} = \quad \text{(Overall labor productivity growth)}$$

$$\sum_{i=1}^n \left[\left(\frac{P_{it} - P_{it-1}}{P_{it-1}} \right) \chi \frac{Y_{it-1}}{Y_{t-1}} \right] \quad \text{(Within effect)}$$

$$+ \sum_{i=1}^n \left[\left(\frac{P_{it-1}}{P_{t-1}} \right) \chi \left(\frac{L_{it}}{L_t} - \frac{L_{it-1}}{L_{t-1}} \right) \right] \quad \text{(Static shift effect)}$$

$$+ \sum_{i=1}^n \left[\left(\frac{P_{it} - P_{it-1}}{P_{t-1}} \right) \chi \left(\frac{L_{it}}{L_t} - \frac{L_{it-1}}{L_{t-1}} \right) \right] \quad \text{(Dynamic shift effect)}$$

where P_t is the productivity level of Curaçao in period t ;

$Y_t = \sum_{i=1}^n Y_{it}$ is the total value added of Curaçao in period t ;

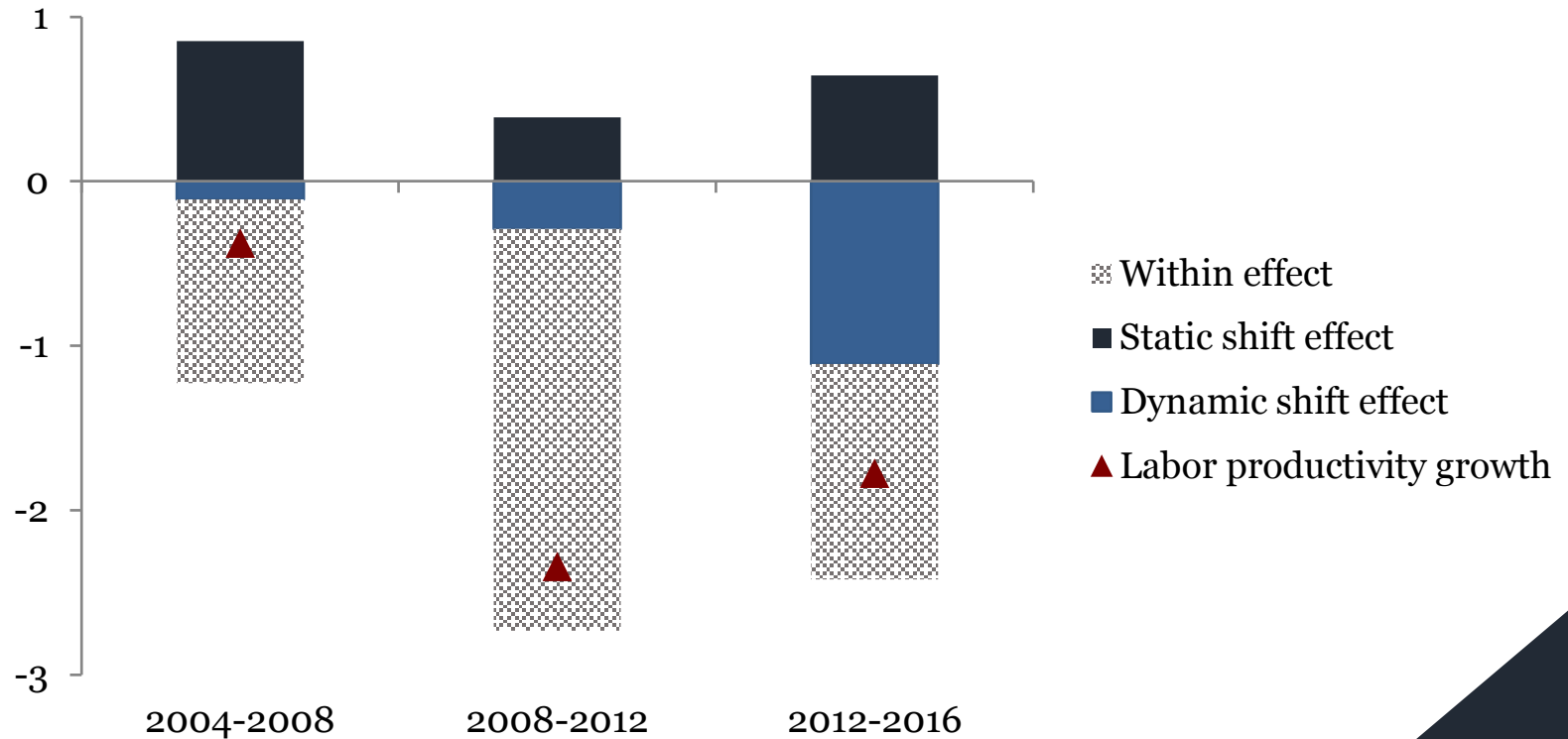
$L_t = \sum_{i=1}^n L_{it}$ is the total employment of Curaçao in period t ; and

$i = 1, \dots, n$ is the i^{th} economic sector of Curaçao



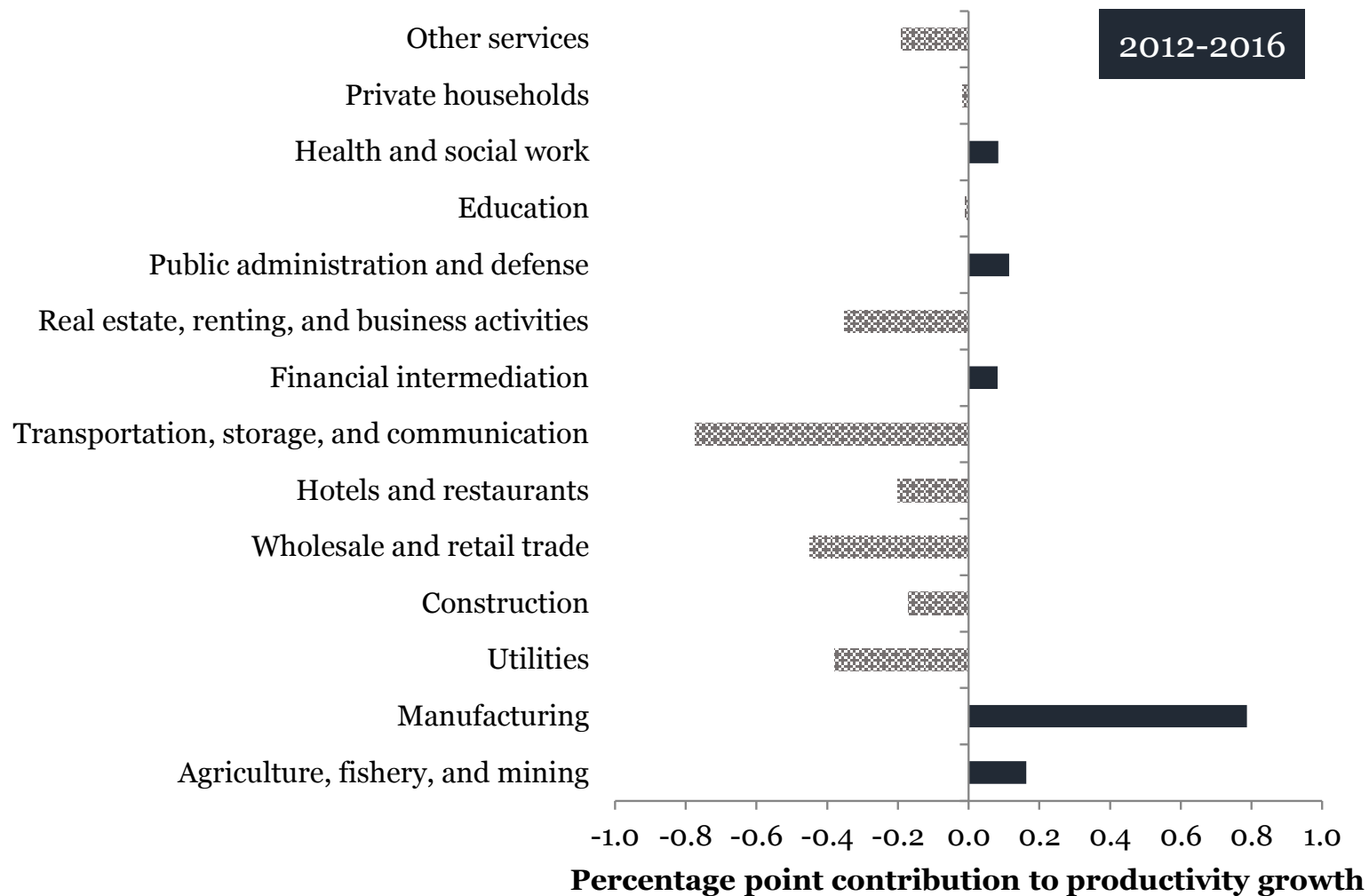
Labor productivity in Curaçao

- Within effect
- Dynamic shift effect
- + Static shift effect



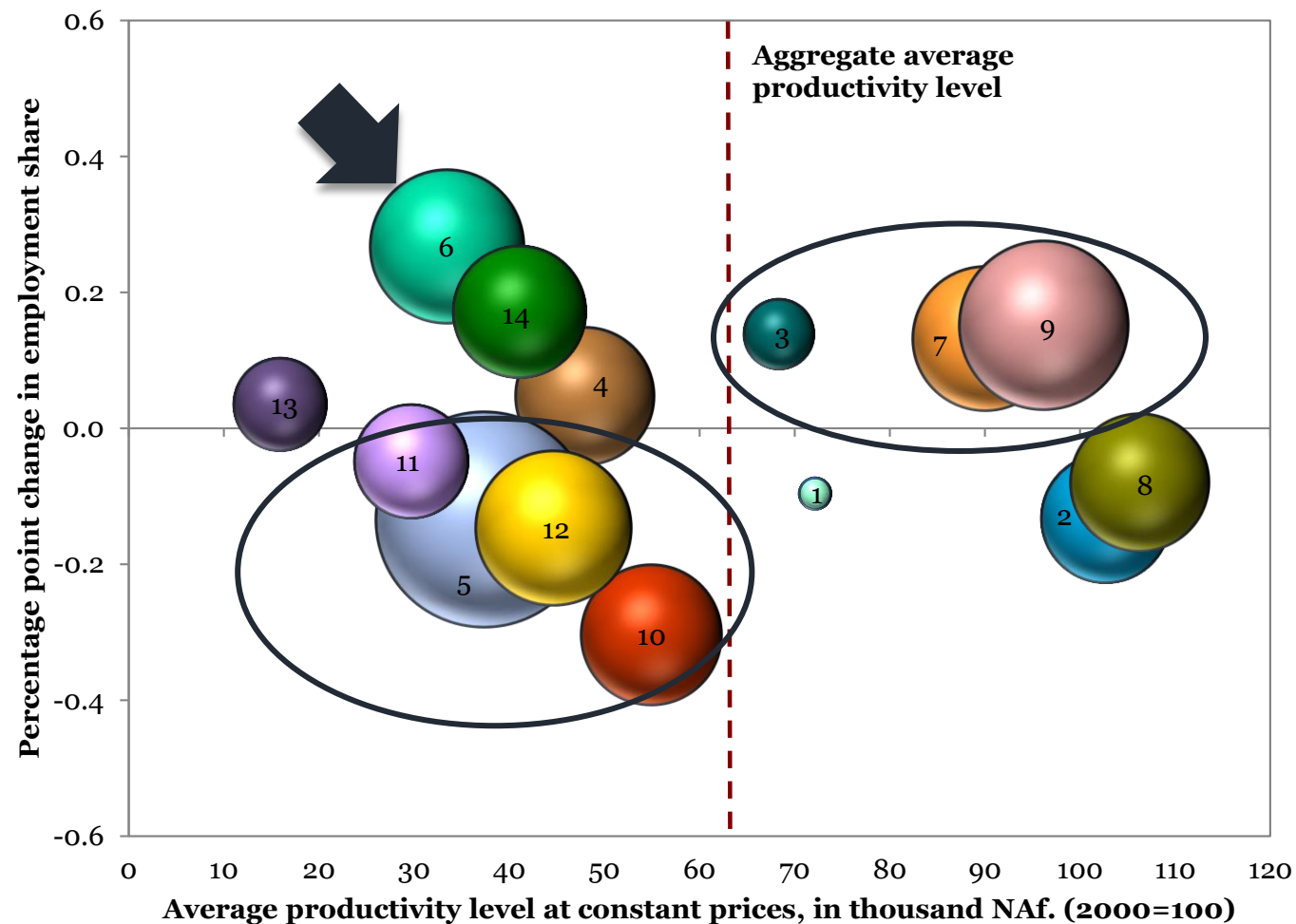


Labor productivity in Curaçao





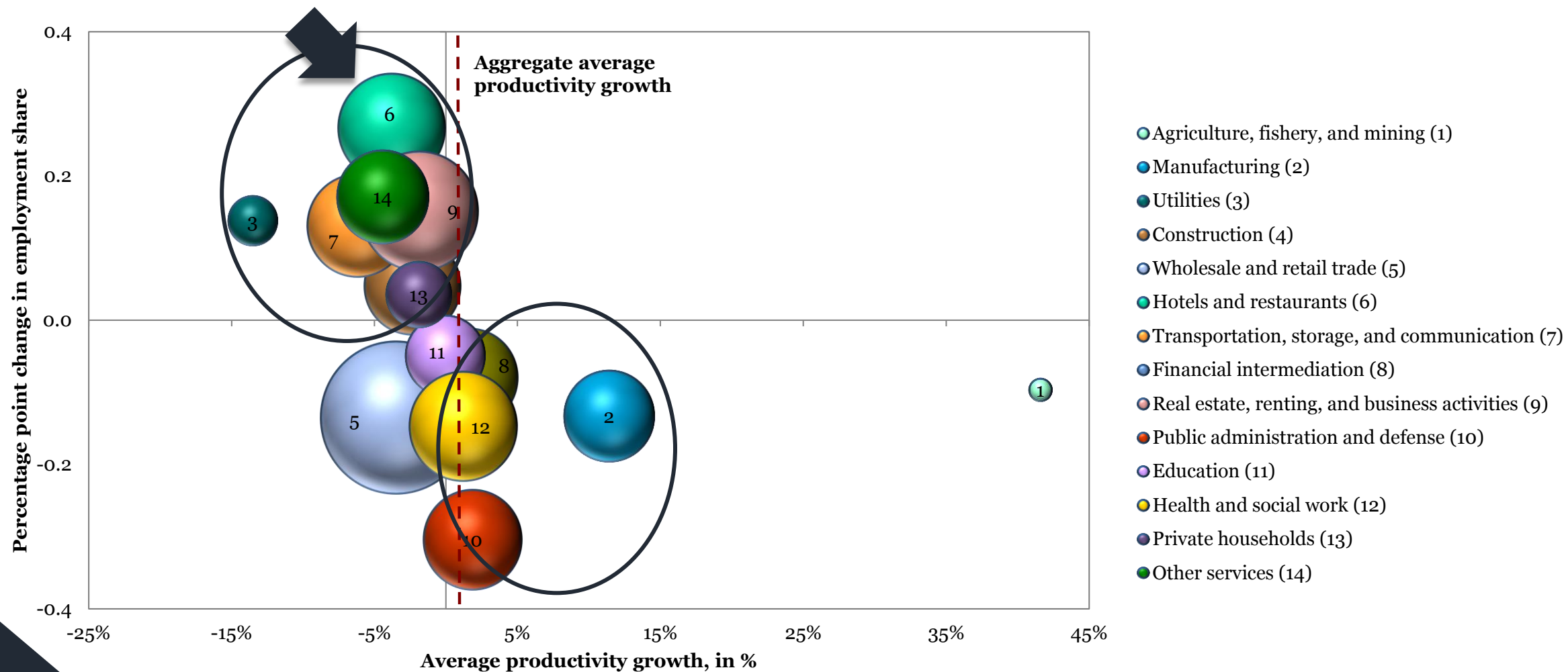
Labor productivity in Curaçao



- Agriculture, fishery, and mining (1)
- Manufacturing (2)
- Utilities (3)
- Construction (4)
- Wholesale and retail trade (5)
- Hotels and restaurants (6)
- Transportation, storage, and communication (7)
- Financial intermediation (8)
- Real estate, renting, and business activities (9)
- Public administration and defense (10)
- Education (11)
- Health and social work (12)
- Private households (13)
- Other services (14)



Labor productivity in Curaçao





Labor productivity in Curaçao

- **Static:** financial intermediation, manufacturing, and real estate, renting, and business activities sectors
- **Dynamic:** manufacturing sector

Tourism sector

Below-average productivity levels in all periods

Below-average growth rate (negative) in the last period



Curaçao's labor productivity in an international perspective

Research conducted by the CBCS (forthcoming)

Curaçao's labor productivity performance in a Latin American and Caribbean context



Curaçao's labor productivity in an international perspective

- Data from the Central Bureau of Statistics and World Bank
- Sample period: 1999-2016
- Hours data for Curaçao start from 2002
- GDP at constant prices (2010 = 100)
- 2010/2012: linear interpolation of # workers and hours



Curaçao's labor productivity in an international perspective

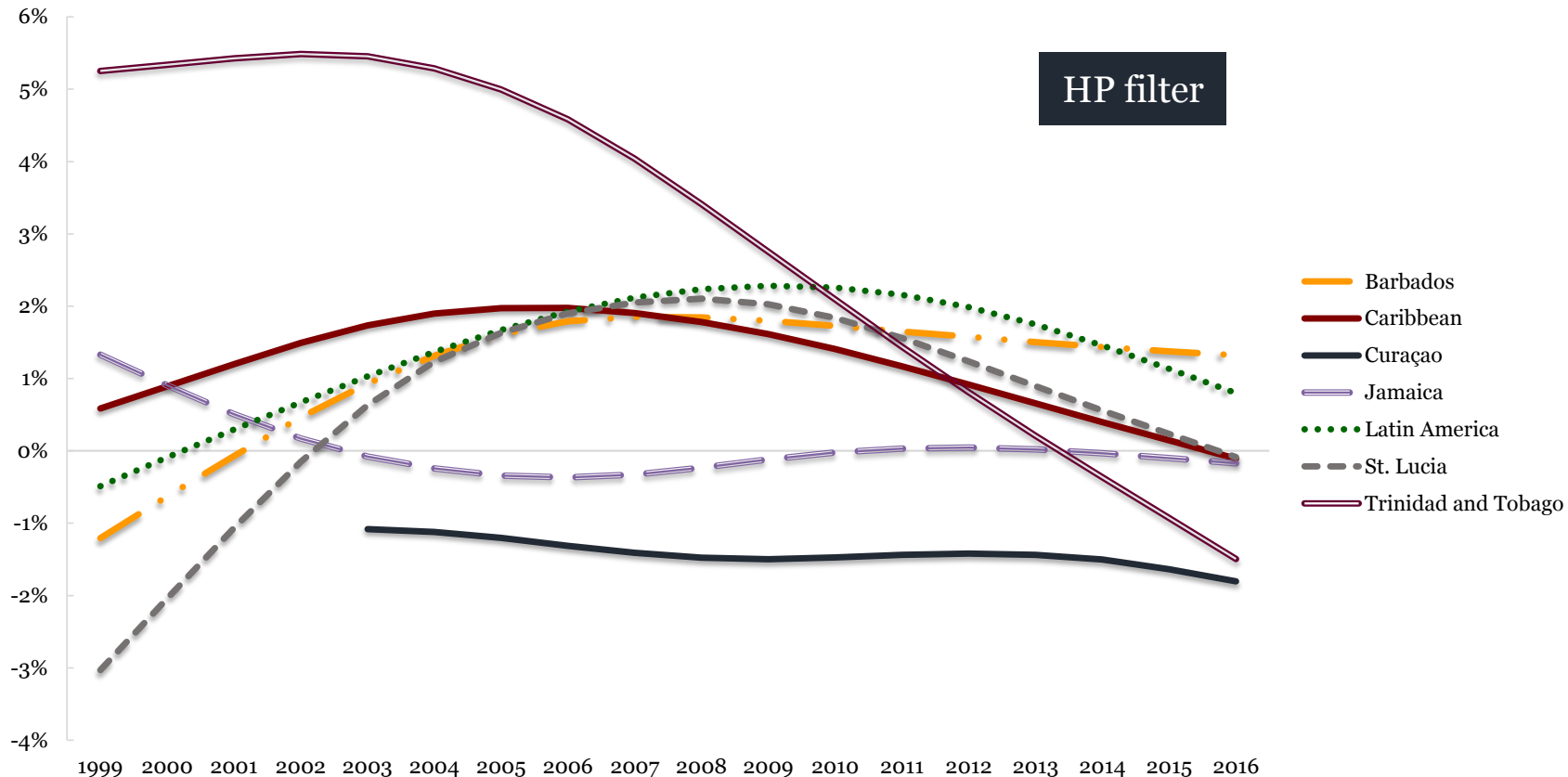
| | GDP per worker | GDP per capita | GDP per hour |
|-----------------------------|----------------|----------------|--------------|
| Key trading partners | | | |
| Netherlands | 0.5% | 0.8% | 0.6% |
| United States | 0.9% | 0.6% | 0.9% |
| Latin America | | | |
| Argentina | 0.9% | 1.7% | 1.0% |
| Brazil | 0.6% | 1.3% | 1.0% |
| Chile | 1.3% | 2.7% | 2.0% |
| Colombia | 1.6% | 3.1% | 2.1% |
| Costa Rica | 1.2% | 3.0% | 1.6% |
| Ecuador | 1.8% | 1.9% | 2.6% |
| Mexico | 0.1% | 1.1% | 0.4% |
| Peru | 3.5% | 4.6% | 3.9% |
| Uruguay | 2.7% | 4.1% | 3.1% |
| Caribbean | | | |
| Barbados | 1.3% | 0.3% | 1.7% |
| Jamaica | -0.4% | -0.5% | 0.0% |
| St. Lucia | 0.9% | 1.3% | 1.3% |
| Trinidad & Tobago | 1.2% | 2.0% | 1.6% |
| Curaçao | -1.8% | -0.9% | -1.9% |

| | GDP per worker | GDP per capita | GDP per hour |
|-----------------------------|----------------|----------------|--------------|
| Key trading partners | | | |
| Netherlands | 0.8% | 0.6% | 0.8% |
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| Caribbean | | | |
| Barbados | 0.9% | 0.3% | 1.2% |
| Jamaica | -0.3% | 0.1% | 0.0% |
| St. Lucia | -0.2% | 0.5% | 0.2% |
| Trinidad & Tobago | -0.9% | 0.2% | -0.5% |
| Curaçao | -1.4% | -1.4% | -1.1% |



Curaçao's labor productivity in an international perspective

Trend productivity growth has remained negative...





Conclusion

What have we seen so far?

Labor productivity is a key driver of economic growth!

- However, Curaçao's labor productivity:
 - ...has been declining for years
 - ...contributed negatively to economic growth
 - ...showed a shift from more productive to less productive sectors

What is next?

Focus on improving labor productivity to generate economic growth

Thank you for your attention!

