STRUCTURAL CHANGE AND ECONOMIC DEVELOPMENT: IS BRAZIL CATCHING UP OR FALLING BEHIND?

André Nassif, Carmem Feijó and Eliane Araújo

No. 211
October 2013

Acknowledgements: The authors thank Luis Carlos Bresser Pereira, José Luis Oreiro, David Kupfer, Fernando Puga, Erika Amorim, Claudio Leal, Jorge Arbache, Samuel Pessôa and the two anonymous UNCTAD referees for their comments and suggestions. Any remaining failures are the authors' responsibility.

UNCTAD/OSG/DP/2013/1
Contents

Abstract ......................................................................................................................... 1

I. INTRODUCTION ........................................................................................................... 1

II. STRUCTURAL CHANGE AND ECONOMIC DEVELOPMENT:
THEORETICAL FRAMEWORK ...................................................................................... 3
   A. Towards a structuralist theory of economic development: a Kaldorian-Thirlwallian
      approach .................................................................................................................. 3
   B. Stylized facts and a basic hypothesis on structural change and economic development. 6

III. STRUCTURAL CHANGE IN THE BRAZILIAN ECONOMY: INDUSTRIALIZATION
(OR DE-INDUSTRIALIZATION), CATCHING UP (OR FALLING BEHIND)
SINCE THE 1970s? ......................................................................................................... 8
   A. An overview of the Brazilian industrialization process .............................................. 8
   B. The connections between the stylized facts on structural change and economic development
      and the empirical evidence for the Brazilian economy ........................................... 10

IV. ECONOMETRIC EVIDENCE: THE KALDOR-VERDOORN'S
AND THIRLWALL'S LAWS .......................................................................................... 18
   A. Estimating the Kaldor-Verdoorn coefficient for the Brazilian economy (1970–2010) ... 18
   B. Estimating the income elasticity of demand for Brazilian exports and imports (1980–2010) . 19

V. CONCLUDING REMARKS ........................................................................................ 22

ANNEX A: Manufacturing industry according to technological intensity .................. 24
ANNEX B: Data sources ............................................................................................... 25

REFERENCES ............................................................................................................... 26

List of tables
1 The main sectors of activity as a share of total real value added in Brazil, selected years .......... 9
2 Participation of employment in Brazil by sector of economic activity, selected years .......... 13
3 Estimate of the Kaldor-Verdoorn coefficient for the Brazilian economy, 1970–2010,
   econometric estimate of equation (2) ........................................................................ 19
4 Explanatory factors and income elasticity of demand for imports in Brazil ...................... 20
5 Explanatory factors and income elasticity of demand for exports in Brazil ..................... 21
6 Thirlwall’s Law ......................................................................................................... 21

List of figures
1 Value added in the Brazilian manufacturing sector according to technological intensity,
   selected years ............................................................................................................ 11
2 Percentage of total employment in the Brazilian manufacturing sector according to
   technological intensity, selected years ....................................................................... 12
3 Labour productivity growth of the Brazilian manufacturing industry, 1970–2008 ............. 15
4 The Brazilian technological gap: relative labour productivity in the Brazilian
   manufacturing sector compared with that of the United States, 1970–2008 .................. 15
5 Brazilian total exports classified by intensity of value added, 1970–2010 ........................ 16
6 Trade balance of the Brazilian manufacturing industries classified by
   technological intensity, 1970–2008 ....................................................................... 17