The World's Largest Open Access Agricultural & Applied Economics Digital Library

This document is discoverable and free to researchers across the globe due to the work of AgEcon Search.

Help ensure our sustainability.

Give to AgEcon Search

AgEcon Search
http://ageconsearch.umn.edu
aesearch@umn.edu

*Papers downloaded from **AgEcon Search** may be used for non-commercial purposes and personal study only. No other use, including posting to another Internet site, is permitted without permission from the copyright owner (not AgEcon Search), or as allowed under the provisions of Fair Use, U.S. Copyright Act, Title 17 U.S.C.*

No endorsement of AgEcon Search or its fundraising activities by the author(s) of the following work or their employer(s) is intended or implied.

Centre on Regulation and Competition

WORKING PAPER SERIES

Paper No. 122

NEO-LIBERALISM AND MARKET CONCENTRATION IN BRAZIL: THE EMERGENCE OF A CONTRADICTION?

Edmund Amann
(University of Manchester, UK)
and
Werner Baer
(University of Illinois)

November, 2005

ISBN: 978-1-905381-21-2

Further details: Centre Secretary
Published by: Centre on Regulation and Competition,
Institute for Development Policy and Management, University of Manchester,
Harold Hankins Building, Precinct Centre, Oxford Road, Manchester M13 9QH, UK
Tel: +44-161 275 2798 Fax: +44-161 275 0808
Email: crc@manchester.ac.uk Web: www.competition-regulation.org.uk

NEO-LIBERALISM AND MARKET CONCENTRATION IN BRAZIL: THE EMERGENCE OF A CONTRADICTION?

Edmund Amann & Werner Baer

Three of the major policy prescriptions of the neo-liberal school of the late 20th century[1] were: to drastically reduce import tariffs and non-tariff barriers to imports, to permit foreign firms to enter markets from which they had been excluded, and to reduce the presence of the state through massive privatization programs. These measures were supposed to end many of the inefficiencies of import substitution industrialization (ISI): high protection, isolating the domestic markets from world competition; the emergence of protected monopolistic or oligopolistic market structures, with lots of rent seeking; firms having no incentives to invest in productivity-increasing technologies; and the spread of state firms whose efficiency declined over time (as they often were used as instruments of macro-economic policies and as there were political pressures to over-employ). The opening of the economy would bring along the fresh winds of a market economy, forcing existing firms to increase efficiency and eliminate monopoly rents.

In this article we shall examine the degree of market and firm competitiveness that developed in Brazil in the 15 years since the introduction of neo-liberal policies. In particular, we seek to evaluate the extent to which trade liberalization and the freeing-up of domestic markets has resulted in more competitive firm performance and market structures. Theoretically, our analysis is motivated by debates stemming from the industrial organization literature. Within this literature, there has long been a preoccupation with the need to generate policy conditions in which firm efficiency and the welfare of society as a whole is maximized. Traditionally, this question was addressed through the optic of structure-conduct-performance (SCP) analysis. According to this, the conduct and performance of firms was ultimately determined by the market structures in which they were embedded (Scherer & Ross, 1990). Thus, for example, a firm located in a market comprised of a highly restricted range of producers could be expected to act in a manner consistent with the sort of monopolistic behavior identified by Chamberlin and Robinson.

[1] Besides the opening of the economy, the neo-liberal policies included other measures, such as severe austerity policies designed to eliminate inflation. See: Amann and Baer (2002).

This would involve the sub-socially optimal setting of prices and output and a resultant deadweight loss.

In the absence of a natural monopoly and/or countervailing interventions, the SCP analysis seems to suggest that the more concentrated the market structure, the less socially optimal the outcome. From the policy perspective, the conclusion implicit in this analysis is that measures need to be taken to tackle concentrated market structures. This could involve such interventions as anti-trust legislation or, where natural monopolies were held to exist, direct regulation. In the case of Brazil, it is certainly possible to argue that the liberalization drive has been partly aimed at breaking down the monopolistic market structures synonymous with Import Substitution Industrialization. Therefore, one question that this article examines is whether this drive succeeded and to what extent it might have impacted favorably on firm performance and international competitiveness.

Over the past two decades or so, the SCP paradigm has come under intense fire from the proponents of alternative schools, in particular the contestable markets hypothesis (CMH). The CMH, in stark contrast to the SCP paradigm, disputes any rigid link between market structure and firm performance. Instead, a variety of firm performance patterns may be consistent with a given market structure. The reason for this is that the contestable markets hypothesis disputes that the structural conditions highlighted by the SCP paradigm are, in fact, exogenous. Under these circumstances the behavioral characteristics of firms are less likely to be affected by existing market structure *per se* than by the potential of that market structure to change. For Baumol (Baumol, 1982; Baumol & Willig, 1981) a leading advocate of the CMH, what matters most in the pursuit of social efficiency and firm competitiveness is not so much the extant degree of concentration in the market than the pressure exerted on existing participants by the threat of new entrants. Flowing from the CMH it is possible to argue from a policy perspective that improvements in firm and market efficiency are best achieved through measures to promote market entry and exit rather than attempts to restrict market concentration. In this context, a further question to be addressed by this article concerns whether the dismantling of ISI, regardless of its impact on market concentration, has enhanced market contestability and whether this has stimulated increased firm competitiveness.

The structure of this article is as follows. In first place we review the policy measures associated with the dismantling of ISI, in particular domestic market de-regulation, privatization and trade liberalization. Second, the impacts of these policies on domestic

market concentration and import penetration are analyzed. Next, the competitive performance of Brazilian enterprises is evaluated and linked to underlying changes in market structure and contestability. The objective here is to assess the relative validity of the SCP and CMH approaches in the Brazilian context. We shall also examine the impact of market concentration on Brazil's distribution of income. Finally, by way of a conclusion, some policy recommendations are advanced.

The Dismantling of Import Substitution Industrialization (ISI)

Until the last decade of the 20th century Brazil's economy was highly protected through both import tariffs and non-tariff barriers. In the mid-1960s the average protection was estimated at 85%.[2] Even though there were occasionally moves towards trade liberalization, Coes found that "Brazilian trade policies on the import side were at best timid and at worst severely restrictive in the post-1964 period. The essential feature of Brazil's trade regime during this period was its maintenance of administrative control over import flows. At times trade policy permitted a high volume of imports….(but)…Trade authorities never relinquished their control…so that it was relatively easy for them to reverse the trend toward greater openness to imports after the first oil shock in 1974." [3]

Beginning in the 1990s, and continuing throughout the decade, Brazil's policy stance increasingly conformed to the so-called "Washington Consensus". In 1989 the average tariff was 41%. After the accession of President Collor the following year, the tariff began to decline continuously, reaching 13.5% in 2002 (see Table 1).[4] In 1990, during the first year of the Collor administration, most non-tariff barriers were also abolished, rapidly subjecting domestic firms to intense foreign competition. Over the following 15 years the economy continuously opened up, as can be see in Table 2. The import/GDP ratio almost doubled between 1990 and 2004, and the export/GDP ratio rose even more.

---

2 Bergsman (1970), p. 42.

3 Coes (1995), p. 138.

4 The liberalization trend was occasionally interrupted. For example, as a result of the initial appreciation of the *real* in late 1994 and early 1995, Brazil's import skyrocketed, leading the government to re-impose temporarily direct quantitative restrictions on such imports as automobiles.

Table 1: Brazil - Tariff Rates (all products)

Tariff	1989	1990	1991	1992	1993	1994	2002
Average	41.1%	32.2%	25.3%	21.2%	17.7%	14.2%	13.8
Mode		40.0%	20.0%	20.0%	20.0%	20.0%	
Standard Deviation	19.1%	19.6%	17.4%	14.2%	10.7%	7.9%	

Source: W. Fritsch and G. Franco, *Foreign Direct Investment in Brazil: Its impact on Industrial Restructuring* (Paris, 1991), p. 20. World Trade Organization, *World Trade Report 2004.*

Table 2: Brazil - Economic Openness Ratios

	Exports*/GDP	Imports*/GDP	Exports*+Imports*/GDP
1985	12.95	7.50	20.45
1990	8.20	6.96	15.16
1995	7.72	9.49	17.21
2000	10.66	12.18	22.84
2004	18.00	13.33	31.33

*Goods and services.
Source: *Conjuntura Econômica.*

The opening of Brazil's economy can be viewed in a more disaggregated way in Table 3. It contains the import penetration ratios[5] for a number of sectors. One notices substantial increases in such sectors as auto parts, textiles and clothing, electronics, machinery, plastic products, petrochemicals and steel/metallurgy.

[5] Import penetration for a sector is the ratio of imports of a specific product to the total sales of the product (value of imports + value of domestic production).

Table 3: Brazil: Concentration and Import Penetration Ratios

	(Share of Sales of 4 largest firms)		Import/Sales	
	1993	2004	1993	2003
Transportation	73%	73%		
Public Utilities	46%	69%		
Information Techn.	77%	54%		
Telecoms	100%*	72%		
Wholesale trade	56%	80%		
Retail Trade	54%	66%		
Food, Drink, Tobacco	55%	76%	3.5	4.6
Auto Parts (?)	86%	85%	5.8	15.2
Textiles, Clothing	45%	62%	4.3	9.3
Construction	47%	67%		
Electronics	38%	46%	7.2	26.4
Pharmaceuticals & Cosmetics	62%	63%	6.9	9.9
Construction Materials	41%**	56%	0.3	
Machinery	51%	56%	26.3	32.1
Mining	59%	79%	2.5	6.0
Paper, Cellulose	50%	57%	4.2	6.5
Plastics, Rubber	61%	68%	0.7	13.3
Petrochemicals	80%	91%	5.8	25.1
Steel, Metallurgy	58%	72%	3.3	10.2

* Telecommunications were privatized in 1998.
** Data refer to 1994.
Source: Calculated from data in *Exame*, August 1994 and July 2005.

The opening of the economy was not only restricted to trade. It also extended to investment liberalization, especially from 1995 on, after an amendment to the constitution eliminated any differentiation in the legal status of domestic and foreign firms. Foreign capital was allowed to enter sectors from which it had been previously excluded, such as oil exploration and public utilities.[6]

In addition to opening the economy, the Collor government also initiated a process of privatization. This was first limited to steel and petrochemicals. However, after President Cardoso came to power in 1995, the privatization process expanded rapidly into such sectors as public utilities and transportation infrastructure.[7]

[6] See Baer (2001).
[7] For details of the privatization process, see Baer (2003).

Structural Changes in the Economy

To what extent did the opening of the economy affect its structural characteristics? To answer this question, let us first examine the changes in the degree of market concentration in various sectors. In Table 3 we measure concentration ratios in various sectors. We calculated the ratios based on yearly survey data provided by *Exame* magazine. Since the 1980s this magazine has conducted yearly surveys of the top twenty firms in each sector. Table 3 shows the shares of the top four firms among the 20 in each sector. It will be noted that the concentration ratio increased in 14 out of the 19 sectors, and in 9 sectors the ratio increased by more than two digits. There was only a notable decrease of that ratio in two sectors – information technology and telecoms. The former was a new sector, with relatively low entry costs and where demand was expanding rapidly, while the latter reflects the privatization process, with the appearance of private firms replacing a former government monopoly.

What are the possible connections between the opening of the economy and the rising market concentration? In theoretical terms, in the spirit of the challenge-response mechanism, it might be expected that greater exposure to international competition would force firms to make substantial efforts to increase their efficiency. One way of accomplishing this could be through merging into larger units. These would permit the realization of greater economies of scale. The evidence provided by Table 3 is quite striking. In all of the sectors for which appropriate data are available there is a clear positive association between increases in internal market concentration and rises in the import-domestic sales coefficient. Despite this, there seems no clear, linear connection between the extent of opening experienced by a particular sector and the degree of increased concentration it presented. Nevertheless, in general terms, the data are consistent with the hypothesis that the rising challenge posed by trade liberalization stimulated agglomeration of firms and production facilities.

> As already suggested, implicit in the pursuit of rising concentration was the achievement of greater industrial efficiency. However, it is obvious that measures of industrial concentration, however confected, cannot in themselves serve as satisfactory proxies for industrial efficiency. To gain greater insight in this regard, we examine two key variables: productivity change and investment in technology.

Table 4: Changes in Productivity and Import by Sector, 1996-2002

	% productivity change	% import change
Coal mining	52	
Petroleum extraction	-65	
Metallic mineral extraction	230	
Non-Metallic mineral extraction	24	140
Food and drink	37	31
Tobacco products	70	
Textiles	-42	116
Clothing	0	
Leather goods	15	
Wood products	55	
Paper and cellulose	93	55
Fuels	507	333
Chemicals	37	
Rubber and plastics	8	1800
Construction materials	59	
Metals (incl. steel)	108	209
Metal fabrications	23	
Machinery	24	26
Office equipment	-4	
Electrical and communications equipment	-7	267
Autos	50	162
Other transport equipment	160	
Furniture	21	

Source: Own elaboration based on IBGE data

The data once again appear to provide some reasonably strong conclusions. In overall terms there is a clear association between the opening up of particular sectors (as measured by rises in the import change coefficient) and positive alterations in productivity (see Table 4). However, this relationship does not hold good in all sectors. In the case of textiles and electrical and communications equipment, for example, productivity change is actually negative despite a substantial opening up of those sectors to external competition. This perhaps suggests that not all sectors were able to meet successfully the competitive challenge thrown up by trade liberalization.

Table 5: Firms which Implemented Innovations: Sectoral Shares.

	1998-2000 (%)	2001-3 (%)	Import Change 1996-2002 (%)
Food and Beverages	14.2	12.6	31
Textiles & Clothing	16.3	17.7	116
Paper, Cellulose	1.9	1.9	55
Steel & Metal Prods.	9.8	10.5	209
Machinery	5.4	6.4	26
Mining	2.4	2.2	140
Autos	3.7	2.3	162
Rubber & Plastics	5.9	6.0	1800
Leather Prds., Shoes	4.6	4.6	n.a
Chemicals	4.2	4.2	n.a.

Source: Table 4; IBGE, special study on innovations.

Aside from driving up productivity, another response to any new wave of import competition could be through industrial innovation, whether in terms of investment in new product or process technologies. The data presented in Table 5 give an idea of the distribution of innovations introduced in various sectors in the period 1998 to 2003. The data are based on a survey conducted by Brazil's central statistical office (IBGE). Perhaps surprisingly, the Food and Beverage and Textile and Clothing sectors had the largest share of implementation of innovation in the period. Comparing this to part b) of Table 3, it will be noted that these two sectors underwent some of the largest increases in concentration. In explaining this, one possibility is that it was the larger firms which could afford to invest heavily in technology[8]. This in turn would place them in a better condition to face the challenge of import competition. In the case of textiles this has become intense as the Brazilian market has been progressively more exposed to Chinese exports.

While there appears to be a tentative relationship between the degree of concentration and investment in technology, could there be a link between openness (as measured by import penetration) and such investments? Table 5 does not provide convincing evidence in this regard. Specifically, there seems to be no rank association between those sectors who experienced the highest rises in import penetration and those who invested relatively more in technology. This suggests that the relationship between openness and technological investment is likely to be complex and certainly merits further research.

[8] Large domestic and foreign groups had not only larger internal resources, but also had easier access to the resources of Brazil's government development bank (BNDES).

Mergers and Acquisitions and CADE's Antitrust Policies

In tandem with the opening of the economy and the privatization process, Brazil also experienced a wave of mergers and acquisitions, which contributed to the observed increased concentration trend in many sectors. Tables 6a-c show that there was a substantial increase in the second half of the 1990s in both domestic and cross border acquisitions. The largest number was in Food, Beverages and Tobacco, which also experienced a very large increase in concentration. Substantial numbers of mergers and acquisitions are also found in financial institutions, oil and steel, and public utilities where there was also a substantial increase in concentration. The large number of mergers & acquisitions in telecoms followed a period of de-concentration, reflecting the emergence of various private firms that succeeded the absolute government monopoly which existed previously. The large number of mergers, accompanied by market de-concentration in information technologies, reflects the huge influx of small and medium-sized firms into this new sector, which outweighed these mergers.

The consistent increase in the number of mergers and acquisitions and the resulting trend towards economic concentration in most sectors has taken place despite the efforts of the Brazilian government to strengthen its anti-trust institutions. Although anti-trust legislation dates back to 1962, enforcement was feeble or almost non-existent for the next three decades.[9] Competition policy became more important in 1994 with the introduction of Law 8884, which introduced merger control and made CADE into a more independent institution.[10] Although more merger cases have fallen under scrutiny since then, the impact of CADE's judgments has done little to prevent the concentration trends. For instance, the merger which resulted in AMBEV, which was to control over 70% of the market for beer and soft drinks, was taken to task in a mild way, as the new firm was asked to divest itself of a beer subsidiary which had a market share of only 5%.

[9] CADE (Administrative Council of Economic Law) was created in September 1962, but its impact was weak. In fact, it has been claimed by some that the government itself encouraged the development of cartel-type groups through its period attempts at price controls. See Considera and Corrêa (2002), pp. 9 -15.

[10] The law changed CADE into the final authority on merger decisions, on performance commitment, and on abusive price increases. Together with the Secretariat for Economic Monitoring (SEAE) of the Ministry of Finance, the Secretariat for Economic Law (SDE) of the Ministry of Justice, CADE came to constitute the country's anti-trust authorities. Considera and Corrêa (2002), p. 24. and Salgado (1997), pp. 175-85.

Table 6a: Brazil - Mergers and Acquisitions

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Domestic	81	82	161	168	130	101	123	146	143	116	100
Cross Border	94	130	167	204	221	208	230	194	84	114	199
TOTAL	175	212	328	372	351	309	353	340	227	230	299

Table 6b: Sectoral Distribution of Mergers and Acquisitions, 1995 - 2005

Sector		Sector	
Food, Beverage & Tobacco	155	Textiles	51
Financial Institutions	135	Cement	39
Information Technology	127	Hygiene	35
Telecommunications	111	Packaging	33
Oil Industry	100	Extractive Industries	28
Metallurgy & Steel	77	Vehicle Assembly	27
Chemical & Petrochem.	70	Port Services	27
Insurance	62	Aviation	23
Energy Companies	56	Mining	21
Automobile Parts	53	Shopping Centers	20
Advertising & Publish.	46	Hotels	18
Chemical & Pharmaceuticals	44	Fertilizers	17
Supermarkets	44	Public Services	14
Electrical & Electronic Equipments	41	Railways	13
Company Services	37	Hospitals	12
Transportation	33	Design & Graphics	11
Wood & Paper Pds.	31	Clothing & Shoes	8
Engineering Pds.	31	Other	229
Construction & Pds.	27		
Retail Outlets	24	TOTAL	3,366

Source: KPMG, *Mergers & Acquisitions Research, 2005*, 2nd quarter.

Table 6c: Brazil - Mergers and Acquisitions by Source

Home Country of Acquiring Company	1996	1997	1998	1999	2000	2001	2002	2003	TOTAL
Brazil	4	7	14		79	90	68		262
Foreign	15	39	140		443	492	447		1,566
Brazil & Foreign*	0	0	0		1	2	3		6
TOTAL	19	46	144		523	584	518		1,834

* Joint Ventures.
Source: CADE, Annual Reports;

Although merger cases examined by CADE have grown substantially since 1994 (when such examination became compulsory), the degree of intervention has been small and declining. It seems that market share has not been considered to be a necessary or sufficient condition to intervene. Rather, there has been an emphasis on behavior instead.

The emergence of a supposedly more rigorous and better-defined competition policy on the one hand and the emergence of a substantially more concentrated industrial economy on the other present something of a paradox. Just at a time when the authorities appeared to have committed themselves to the creating a more competitive domestic market there has, in fact been an unprecedented and largely unchecked move on behalf of private enterprises to combine and apparently reduce the scale of the domestic competitive threat. How might this paradox be explained and, indeed, might it find some theoretical justification?

It is certainly possible to argue that the competition authorities may have been quite justified in countenancing an increase in domestic concentration ratios if one adopts a contestable markets perspective and discards supposedly outmoded notions of structure, conduct and performance. Given Brazil's rapid adoption of trade and, indeed, investment liberalization it could be claimed that, despite observed increases in concentration, the domestic market has, in fact, become more contestable. Trade liberalization implies that the Brazilian market – at least in the tradables sector – is now more open to foreign competition while investment liberalization has raised the threat of domestic incumbent enterprises being

subject to takeover bids. In this sense, the market has become more contestable, if substantially more concentrated. From a policy perspective, however, what really counts is whether the apparently more contestable market conditions over the past few years have, in reality, been associated with improvements in competitive performance whether measured by productivity, unit cost or innovation. The evidence presented in this paper suggests that such competitive gains have, in fact been registered. However, there is no clear link between the degree of contestability (at least as measured by import penetration) and the extent of competitive gains realized. It has been argued that the exact nature of such links is likely to be fairly complex and certainly deserving of further investigation.

Moving away from notions of contestability, could the increasingly concentrated industrial landscape be otherwise justified? Drawing on concepts embedded in New Trade Theory it is certainly possible to argue that combining domestic enterprises into larger, scale-efficient units might be an effective way of pursuing international competitiveness (Krugman, 1979). This argument was in fact deployed to justify the Antarctica-Brahma merger that created Ambev (now part of the Belgian-Brazilian InBev). By fostering what used to be termed "national champions" the objective is not only to hold one's own in the domestic marketplace but to realize the scale economies necessary to drive up export performance. In the case of the beverages industry, where transport costs limit the effective scale of exports, this argument is perhaps harder to sustain than it might be in other sectors. However, it cannot be denied that Brazil has now assumed a pivotal position in the global beer industry. By the same token, other national champions (Embraer in aircraft production and CVRD in mining – both of which dominate the domestic market) have proven extremely effective exporters. Indeed, in overall terms, the evidence points to the concentration of export activity in relatively few hands (Pinheiro & Moreira, 2000) with smaller enterprises playing a far more restricted role than in such export-focused economies as Germany and Japan.

A final and perhaps more conventional justification for the toleration of higher degrees of concentration is related to the public utilities sector. In this sector, as has been noted, the period following privatization has witnessed a process of mergers and acquisitions. These have been most accentuated in the telecommunications sector though the energy sector has also been affected. In the case of these industries one does not necessarily have to embrace a Chicago-style approach to competition policy to justify what has happened provided that the increasingly concentrated sectors have been subject to effective regulation. The evidence in this regard is patchy. While it is generally conceded that telecommunications regulation has been extremely effective in combining rising post-privatized market

concentration with consumer welfare gains (in terms of price, availability and quality of service) such benefits are far harder to observe when it comes to the energy sector, in particular electricity generation and transmission (Goldstein and Pires, 2006). This suggests that in certain sectors better regulation is necessary to address the potential dangers implicit in rising concentration.

The Impact of Market Concentration on the Distribution of Income

As we have noted, the opening of the economy and the privatization process have contributed not only to the growth in the number of mergers and acquisitions, but have also stimulated a substantial amount of investment in newer technology. This technological upgrading has both increased worker productivity and increased profitability in many industrial sectors, as can be seen in Table 7, where we compare the years 1996 and 2002. However, it will also be noted in the same table that the salary/value added ratio in all but three sectors has declined in that period, reflecting a trend towards more capital intensity in most firms. Thus, given the already highly concentrated nature of Brazil's income distribution, it would seem that the recent modernization of industry may contribute to a worsening of this distribution. In addition, one should also take into account that the capital-intense investments resulted in the dismissal of many workers, who then either found employment in sectors with lower wages and benefits or who would join the large informal sector.

Table 7: Salary as a Percent of Value Added and Value Added per Person

	Salary / Value Added		Value Added per Employee		Profitability	
					(R$ 1,000)	
	1996	2002	1996	2002	1993	2003
Coal Mining	32.8	26.3	27	41	-6.3	0.2
Petroleum Extraction	0.9	12.1	1157	409		
Metallic Min. Extraction	34.2	8.9	68	225		
Non-Met. Min.	27.1	23.8	21	26		
Food & Drink	24.1	17.8	30	41	7.8	10.6
Tobacco Pds.	15.3	11.6	81	138		
Textiles	35.9	28.9	19	11		
Clothing	44.7	43.5	9	9	3.9	1.4
Leather Gds	36.9	30.0	13	15		
Wood Prds.	36.1	26.8	11	17		
Paper & Cellulose	28.5	15.9	41	79	-3.9	16.0
Fuels	29.0	5.7	57	346		
Chemicals & Petrochemicals	25.2	19.9	68	93	0.9	7.0
Rubber & Plastics	34.3	31.1	26	28	1.1	9.7
Construction Materials	32.4	20.8	22	35	6.0	11.8
Metals (incl. steel)	30.4	16.0	49	102	2.2	17.0
Metal Products	37.2	31.5	22	27		
Machinery	36.2	28.4	34	42	2.2	12.2
Office Equipment	18.4	19.5	68	65		
Electrical & Communic. Eq.	30.0	31.3	42	39	11.2	1.9
Autos	36.7	28.3	44	62		
Other Transport Equipment	34.6	18.0	35	91		
Furniture	37.2	26.8	14	17		
Total Mfg.	**30.5**	**26.8**	**31**			
Mining	21.2		58		10.0	25.6
Public Utilities					-2.2	9.1
Transportation					-6.3	8.3

Source: calculated from data in IBGE.

It seems that Brazil's income distribution problem cannot be solved by a search for more labor-intensive technology. Any developing economy in the 21st century which wants to

participate in an open world economy will have to adopt up-to-date technology in order to effectively hold its own in the industrial sectors of the world. And this will inevitably mean that labor absorption capacity of industry will be severely limited. Simultaneously, the trend in agriculture is similar, as that sector's modernization results in the growth of the type of agribusiness which is also labor-saving.[11]

Considering that in advanced industrial countries most of the economically active population is employed in the service sector (over 75% in the United States), the need to create employment will probably have to be found in that sector. To provide high income types of employment in services calls for huge investments in education, that is, in the formation of human capital, which in many fields is scarce in most Latin American countries, especially in Brazil.

Conclusion

We have shown in this paper that although the aim of opening Brazil's economy and of privatizing its publicly owned firms was to expose the country to domestic and international market forces, it has paradoxically increased ownership concentration of its industries. Thus, whereas the formerly protected markets produced substantial rents for relatively inefficient firms, the open market has resulted in mergers and the adoption of modern, generally labor-saving technologies, which have increased profits relative to wages.

The question is whether this increase in the degree of concentration proved consistent with an increase in economic efficiency, itself presumably the key objective of economic liberalization. In the course of this paper it has been argued that there was, in fact, an association between increasing concentration and the pursuit of strategies which involved driving up productivity, investing in technology and even exporting more intensively.

Such behavior, while difficult to reconcile within a structure-conduct-performance framework, is quite readily accommodated within the contestable markets paradigm. From a policy perspective, an adherence to this paradigm would not lead one to become overly concerned at increasing concentration within the Brazilian economy provided that freedom of entry and exit remained guaranteed. We have argued that the pursuit of trade and investment liberalization has increasingly anchored these freedoms in place. This is turn has

[11] See: Abbey, Baer and Filizzola (2005).

placed unprecedented pressure on market participants to become more competitive. Nevertheless, there appears little room for complacency. By comparison with the past, Brazil's competitive performance has markedly improved during the era of liberalization. Still, it is equally true that the economies of East and South East Asia have, by and large, performed even better. In order to address this competitive challenge, an emphasis on open markets needs to be supplemented with measures aimed at improving enterprise efficiency still further. This is likely to involve the pursuit of structural reforms aimed at improving the quality and availability of key inputs. Among the areas of particular significance here, educational and infrastructural provision stand out as the most prominent.

References

Abbey, L.A., Baer, W. & Filizzola, M. (2005) Growth, Efficiency and Equity: The Impact of Agribusiness and Land Reform in Brazil. University of Illinois: CIBER Working Paper 05-0109.

Amann, E. & Baer, W. (2002) Neoliberalism and its Consequences in Brazil, *Journal of Latin American Studies*, Volume 34, Part 4, November.

Bergsman, J. (1970) *Brazil: Industrialization and Trade Policies*, Oxford University Press.

Baumol, W. (1982) Contestable Markets: An Uprising in the Theory of Industrial Structure, *American Economic Review*.

Baumol, W. & Willig, R. (1981) Fixed Costs, Sunk Costs, Entry Barriers and Sustainability of Monopoly, *Quarterly Journal of Economics*.

Coes, D.V. (1995) *Macroeconomic Crises, Policies, and Growth in Brazil, 1964-90*. (Washington, D.C.: The World Bank)

Considera, C.M. & Corrêa, P. (2002) The Political Economy of Antitrust in Brazil: From Price Control to Competition Policy. *Mimeo*, January.

Goldstein, A. & Pires, J.C. (2006) Brazilian regulatory agencies: early appraisal and looming challenges, in Edmund Amann (ed.) *Regulating Development: Evidence From Africa and Latin America*, Cheltenham and Northampton Mass.: Edward Elgar.

Krugman, P.R. (1979) Increasing Returns, Monopolistic Competition, and International Trade, *Journal of International Economics*, 9(4) 469-479.

Pinheiro, A.C. & Moreira, M.M. (2000) Perfil dos exportadores dos manufacturados: quais as implicações da política? *Revista Brasileira de Comércio Exterior*, no. 65.

Salgado, L.H. (1977) *A Economia Política da Ação Antitruste*. (São Paulo: Ed. Singular).

Scherer, F. & Ross, D. (1990) *Industrial Market Structure and Market Performance* (3rd edn.).