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The footwear industry in Vale do Sinos (Brazil): competitive adjustment in a labour-intensive sector

Achyles Barcelos da Costa

This article analyses the production relocation strategies deployed by firms in the Vale do Sinos footwear cluster in Rio Grande do Sul, in response to competitive pressures from other parts of the world, mainly Asia. The hypothesis proposed here is that, as the sector competes mainly in terms of product price, the factors that most directly influence that variable —such as wages, the exchange rate and tax and financial incentives— have affected the industry's spatial distribution. The study's main conclusions are that, since 1990, footwear production has been migrating to other parts of Brazil and firms have been seeking other sources of competitiveness.

Achyles Barcelos da Costa
Economist and Professor at the
University of Vale do Rio dos Sinos
(UNISINOS)

✉ achylesbc@unisinos.br

I

Introduction

Since the mid-1990s, the footwear, furniture and clothing industries, along with other activities in the Brazilian economy, have been facing intense international competition. The competitive features that have the greatest impact on those productive sectors are market globalization; new forms of competition and, of particular importance for the case at hand, the presence of competitors from other regions of the world, particularly Asia, which enjoy more competitive conditions in terms of cost and labour supply. This article will review the productive relocation strategies deployed by firms of the Vale do Sinos footwear cluster, in Rio Grande do Sul, in response to this situation. The hypothesis proposed is that as the sector competes mainly in terms of the price of its footwear products, the factors that most directly affected the price attribute, namely wages, exchange rates, and tax and financial incentives, have influenced the direction of the industry's spatial location. The sector is turning its attention towards other factors of competitiveness, apart from cost-related ones. Nonetheless, the search for regions offering lower production costs remains the basis for business decision-making in the sector, particularly in firms that continue to produce large volumes.

The methodology used in this paper consists of a review of the theoretical literature on the competitive advantages of production in local productive clusters; the empirical literature on the footwear industry, particularly in Vale do Sinos; and official statistics on footwear-industry employment and exports. These data are supplemented by journalistic information on footwear manufacturing firms that have geographically relocated their production units.

Since the mid-1990s, production and employment in the Brazilian footwear industry has fluctuated broadly in line with exchange-rate variations. The

stabilization policy implemented in the Brazilian economy as from July 1994—the Real Plan—which aimed to control inflation through monetary and exchange-rate policy, produced periods of exchange-rate appreciation, for example in 1994-1999 and 2004-2008, that undermined returns in sectors that compete mainly on price. This pressure was intensified by the presence of international competitors, particularly from the Asian continent, which have abundant and cheap labour available. The overall result is competitive pressure that makes it increasingly difficult for Brazilian firms to survive in their markets, if their exclusive source of competitiveness is production costs.

The key argument propounded in this paper is that various segments of the footwear industry in Rio Grande do Sul and other regions of Brazil will find it increasingly hard to compete in foreign markets exclusively through the price of their products, so they will need to develop other attributes of competitiveness. Nonetheless, until the industry develops new capacities, price-based competition is forcing it to relocate its activities to regions offering lower-cost production conditions. Since the mid-1990s, such regions have included the Brazilian north-east and, in the first decade of the twenty-first century, other countries, including those from Asia.

The paper consists of this introduction and three other sections. Section II sets out the concepts and theoretical relations that underpin the subsequent discussion, highlighting two issues: firstly, it presents the concept of local productive cluster, based on the seminal discussion on industrial districts, identifying the structural dimensions that lead to better performance, particularly geographic proximity; and secondly it clarifies the notion of competitiveness in terms of cluster development. Section III considers the evolution of the Vale do Sinos footwear-industry cluster, in terms of its performance and relocation. It first describes the activity in terms of business structure, location in Brazilian territory and its employment and export trends; and it then analyses the steps taken by the cluster to adapt to the new competitive environment arising from Brazilian macroeconomic policy in the presence of lower-cost competitors in its key markets. Section IV summarizes the main results of the study.

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II

Industrial organization and competitiveness

Since the 1970s, there has been a consensus in the economic literature and among policymakers that economic performance does not depend exclusively on large-scale production or standardization, with little importance given to the specifics of the region where the goods are produced. Until then, relatively backward regions attempted to imitate the “best practices” of developed countries through an import-substitution strategy. The crisis of the “Fordist” model and successful experiences in various parts of the world, such as the so-called “Third Italy” (Emilia-Romagna, Veneto, Toscana, Marche, among other localities), which have achieved economic growth based on small geographically neighbouring firms engaging in flexible production of differentiated goods in small batches, have shown that economic growth can also be achieved by exploiting the specific features of local regions and the way their economic activity is organized.

In the theoretical domain, an attempt was made to revive the insights of Alfred Marshall (1842-1924), who argued that industrial organization, with geographically clustered firms, can generate efficiency gains similar to those of the internal economies of the firm. Through a social division-of-labour process, small firms, which benefit from the local labour market and other agglomeration economies, can also engage in efficient economic activity through productive specialization (Marshall, 1982).

In their famous work *The Second Industrial Divide*, Piore and Sabel (1984) claim that the Italian experience is an example of a new form of industrial organization —flexible specialization— which can overcome the constraints on economic expansion faced by the mass-production model. Nonetheless, it was Italian economists (Becattini, 1992; Bagnasco, 1999; and others), who drew most on the Marshallian concept of the industrial district, to include the social dimension in explanations of economic performance.¹ The community/enterprise combination would be a distinctive factor in situations that produce an accidental agglomeration of independent firms acting

independently, but linked to the same economic activity (Becattini, 1992 and 1999).

To set up that particular form of industrial organization, the “enterprise population” needs to organize itself to specialize in one or more stages of the production processes of the branch of industry or sector in question. In addition to the main product, the more broadly defined sector encompasses activities that produce machinery and equipment, inputs and materials, among other things, which Marshall referred to as “auxiliary”. Linked to the enterprise cluster, there would also be a system of values and ideas relating to ethics, the practice of reciprocity, family and other characteristics of social coexistence, which would become a condition for reproduction of the district; together with a system of institutions, other than the market and the firms themselves, that include school, unions, political parties and cultural associations, among others (Becattini, 1990 and 1992). In this regard, other references for the term “industrial district” can be found, such as local productive cluster.²

The analytical benefits of the concept of industrial district, as disseminated by these studies, include that of conceiving the small firm as an entity that is also capable of generating growth.³ This does not contradict the idea that small size *per se* has limitations; but, as noted by Sengenberger and Pyke (1991), size constraints can be mitigated or overcome when smaller firms coexist in geographic proximity with others, rather than acting in isolation.

The public policy implications were not minor. Policy, generally formulated at the national level, targeted large firms or specific sectors chosen to promote growth; but that changed when the small

¹ Mention should also be made of the seminal work of Granovetter (2001), who introduced the notion of “social embeddedness”.

² That is the expression used in the literature on the subject, from which other expressions are derived and are often used interchangeably. Apart from the term “industrial districts” as such, the most common include local productive clusters, local production systems, enterprise clusters and networks. Although different words aim to express different meanings, these terms are generally used to refer to groupings of firms that are geographically close to each other, mutually related and connected also with other local stakeholders.

³ For discussion of different contributions to the topic of enterprise clusters, see Suzigan (2006).

firm became the focus of attention. Nonetheless, the objectives of government actions always took account of small firms, although the instruments targeted the firm as an individual entity. The novelty now is that those policies are targeting enterprise clusters and their productive environment. Thus the industrial-district concept proved useful for dealing with small firms, and has been incorporated into the country's industrial and technology policies.⁴

A key point is that location in a local productive cluster in itself is a positive factor for a firm's competitive performance, particularly in the case of smaller firms. Membership of organizational networks of that type enables small firms to overcome their inherent managerial, financial and technological and other shortcomings, which often make it impossible for them to survive in markets when acting individually and in isolation. The division of labour practised in industrial districts enables entrepreneurs to enter economic activities with little capital, since specialization in specific stages of the production cycle, or specific product components, obviously requires less capital than setting up an integrated plant. In general, such undertakings usually emerge at the initiative of local residents. This involves, as Marshall notes, the existing "industrial atmosphere", which generates the conditions for such adventurers: "The mysteries of the trade become no mysteries; but are as it were in the air (...)" (Marshall, 1982, p. 234).

For Sorenson and Audia (2000), relations forged in the locality and the tacit knowledge of the business, among other factors, explain why industrial sectors remain geographically concentrated through time. The fact that certain activities persist locally—more business start-ups than failures—relates much more to business opportunities that open up for local residents (such as employees who start their own business), which are not easily accessible to outsiders, than to advantages such as the existence of raw materials, production and distribution in certain localities. Local

inhabitants have an additional asset in the form of "social capital" (Bourdieu, 1998; Coleman, 1988; Putnam, 1996), which is inherent to the locality and thus makes it hard for outsiders to enter the activity in question.

An issue to note in relation to studies of industrial districts is that this type of productive organization arises from a natural development process and displays elements that reflect the idiosyncrasies of the localities in question. Such elements are not the result of deliberate actions, although actions can be undertaken to promote and consolidate already established structures. The historical nature of the development of industrial districts is the basis for its spatial structural diversity and, conceptually, the basis for controversies over its properties.

Naturally, the concept is more empirical than theoretical (Bianchi, 1998). The same structural and performance dimensions may be present with specific features in various districts, and in those that produce similar products but are located in different regions (Altenburg and Meyer-Stamer, 1999; Paniccia, 1998), which makes the concept somewhat indeterminate (McNaughton, 2000). There are districts in which the productive structure is dominated by small firms, as in the Italian experience (Becattini and Rullani, 1996). In others, large firms serve as attractors for employment and sales to the external market, for example the footwear industry in Vale do Sinos. Then there are districts where competitiveness is based on the availability of abundant resources or cheap labour, while others are characterized by products with local peculiarities, skilled labour and high value-added (Sengenberger and Pyke, 1991). Another point that has been the subject of research is the possibility of reproducing industrial districts. As they are the outcome of historical development, their characteristics will not necessarily be repeated in different geographical spaces or time periods. This is a constraint, even for the implications of public policy, as highlighted by Amin (1994) but minimized by others (Ripoll, 1999).

An important issue that is still open for debate concerns the evolutionary dynamic of those organizational networks, and the development paths of their individual component firms. Changes in the patterns of final demand for the district's output, technological innovations, the availability and price of resources and labour, the pace of capital accumulation by individual firms, and the emergence of new geographic zones offering favourable productive

⁴ For example, as happened in Italy with Law 317/91 (Mistri, 1999). In the case of Brazil, the 2004 industrial policy explicitly included the concept of local productive cluster. This concept is also used to guide the actions of institutions working with small firms, such as the Brazilian Microenterprise and Small Business Support Service (SEBRAE). Material printed to disseminate the actions of this service for the leather and footwear sector in Rio Grande do Sul explicitly states that, since 2003, and in accordance with national SEBRAE guidelines, the action of SEBRAE of Rio Grande do Sul moved from an individual-solution approach for its clients to progressively responding to collective needs and opportunities, while respecting regional differences.

conditions, among other factors, mould and modify the configuration of a given enterprise cluster through time.⁵ In research undertaken in 24 districts, Paniccia (1998) found various forms of organization and different levels of performance, along with relations between firms that had conflicts of interest. It remains to be decided which factors might limit the expansion of a cluster in a given region and under what conditions those factors would appear.

The notion of the district's natural development stems from the fact that, over a period of time, a product has been created in a specific locality; and the fact that consumers clearly associate the product and its characteristics with the locality rather than a specific firm. These factors provide a degree of autonomy in generating endogenous forces for cluster growth.⁶ According to Piore (2001), this gives it a competitive advantage that makes it independent of changes in the relative prices of factors of production,

although this author considers that the advantage is more reflective of the social relations established among residents than the physical characteristics of the locality itself.

Nonetheless, not all districts or productive clusters have those characteristics. The historical nature of the district's development means that is not uncommon to find a cluster in which competitiveness stems from the availability of a given abundant and cheap resource, especially in labour-intensive production sectors, such as footwear, furniture and clothing, and located in less developed regions of the world. Moreover, the subordinate way in which the sectors of the footwear industry in those regions enter the external market, makes them more dependent and relatively locked in by that situation, which diminishes their degrees of freedom to implement autonomous strategies for growth and upgrading in the value chain.

Such is the case of the Brazilian footwear industry, particularly its key export segment located in Vale do Sinos, in the south of the country. An understanding of the competitive performance of that industry and its future prospects requires identifying the product attribute on which the cluster depended to remain in the external market, and the type of competition in which it has been participating. These factors shed light on its growth path and the relations of co-operation and competition established between stakeholders in the district and with external agents, in addition to its spatial relocation.

⁵ The Vale do Sinos footwear industry cluster, which was craft-based and dominated by small firms at the time of its entry into the external market, has since undergone a number of changes. Its work process began to focus on "Fordist" production, as it began producing for the external market (Costa, Deberofski and Spricigo, 2007); and large firms came to play an key role in cluster dynamics.

⁶ There are several examples, including carbonated beverages in France; wines from the Oporto region in Portugal; Italian table cheese; and furniture from Gramado, in Rio Grande do Sul.

III

Evolution and spatial location of footwear production in Brazil

The footwear sector is an important source of jobs and income in the Brazilian economy. According to data from the annual social information report [*Relação Anual de Informações Sociais*] published by the Ministry of Labour and Employment, in 2005, the activity employed 298,659 workers in 9,032 business establishments, of which 94.7% consisted of micro and small enterprises, as shown in table 1. Nonetheless, this type of firm accounted for just one third (33.6%)

of employment, owing to the concentration of jobs in the larger firms, which provided 40% of employment in the industry but represented just 1% of the total number of business establishments.

The business structure was not always as shown in table 1, but reflects the outcome of the sector's development process since its incursion into the external market in the late 1960s. Until then, the activity was undertaken by small and medium-sized firms that

TABLE 1

**Distribution of business establishments and employment
in the Brazilian footwear industry by firm size, 2005**

Size	Employment	Percentage	Establishments	Percentage
Microenterprise	32 736	11	7 015	77.7
Small	67 514	22.6	1 534	17
Medium	78 949	26.4	388	4.3
Large	119 460	40	95	1
<i>Total</i>	<i>298 659</i>	<i>100</i>	<i>9 032</i>	<i>100</i>

Source: Prepared by the author on the basis of statistics obtained from *Relação Anual de Informações Sociais*, published by the Ministry of Labour and Employment of Brazil.

Microenterprise: 0-19 employees. Small: 20-99 employees. Medium sized: 100-499 employees. Large: 500 employees or more.

were relatively integrated and eminently craft-based.⁷ The country's per capita income level was relatively low by international standards, which meant that the quality of the footwear produced was consistent with relatively unsophisticated consumption standards in terms of materials and technology. The lack of entry barriers characteristic of the sector made it possible to satisfy demand growth largely by increasing the number of firms, which were mostly small ones. Population density—Brazil is a country of continental dimensions—allowed for many firms and a large production volume, which to some degree enabled the sector to try to satisfy external demand.

In terms of location, although footwear manufacturing has always been present in the different regions of the country, the industry has for long been concentrated in the states of Rio Grande do Sul and São Paulo. Concentration in those states, as shown in table 2, reflects the industry's historical formation, which was the combined result of settlement by immigrants with skills in the manufacture of leather products and the local availability of that basic raw material. In Rio Grande do Sul, it was assisted by the arrival of German colonists in 1824 and access to leather, a relatively abundant byproduct of corned beef (*charque*) in which the state was then pre-eminent. In São Paulo, the activity took root in the city of Franca, based on Italian immigration dating back to 1875. The rise of certain states in the north-east of the

country is more recent, and, as shown below, reflects their policies to attract firms into the region.

As footwear manufacturing is an activity that can be subdivided in time and space, production can be undertaken in business clusters located geographically close to one another. This pattern can be seen in specific regions of several Brazilian states: Vale do Sinos, in Rio Grande do Sul; Franca, in São Paulo and Nova Serrana, in Minas Gerais, among others.⁸

The leading footwear manufacturing cluster in Brazil is located in Vale do Sinos.⁹ Footwear production and its productive chains generate thousands of jobs in Rio Grande do Sul. According to information contained in *Relação Anual de Informações Sociais*, published by the Ministry of Labour and Employment in 2005 (see table 3), in Rio Grande do Sul, there are over 15,100 workers in the tannery segment apart from the employees in the footwear industry itself, making a total of 141,945 workers employed directly in the leather-footwear segments of that productive chain. This figure represented 23.5% of total employment in manufacturing industry in Rio Grande do Sul that year, with thousands of families depending on those activities for their economic sustenance.

⁷ Until the late 1970s, the work process in the footwear sector was organized around "*caballetes*"—a wooden furniture items shaped similarly to a bookshelf, nearly 1 m high and with four or five shelves roughly 1.5 m long. It has wheels on its base so that it can be moved along the factory floor. Mechanization of the productive process was incipient: a number of manual tools were used and the footwear production cycle was relatively integrated (Costa, Deberofski and Spricigo, 2007).

⁸ The exceptions in terms of places where the activity is important, are the states of the north-east: Ceará, Bahia and Paraíba, whose presence in the industry is primarily due to their policies to attract firms from the Brazilian south and south-east, but do not yet have developed footwear industry clusters.

⁹ Vale do Sinos, an abbreviation for Vale do Rio dos Sinos, consists of nearly 30 municipalities located around the Sinos river and its tributaries. Footwear is produced in most of those municipalities as a result of the sector's own expansion. Nonetheless, some localities are particularly important: Campo Bom, Dois Irmãos, Igrejinha, Ivoti, Nova Hartz, Novo Hamburgo, Parobé, Sapiranga and Três Coroas, among others. The activity is also pursued in other municipalities of Rio Grande do Sul unrelated to the region, but on a small scale.

TABLE 2

Distribution of employment in the Brazilian footwear industry by selected states, 2005

State	No. of jobs	%	No. of establishments	%
Rio Grande do Sul (RS)	126 784	42.4	3 419	37.8
São Paulo, (SP)	54 570	18.3	2 776	30.7
Ceará (CE)	44 268	14.8	221	2.5
Minas Gerais (MG)	23 515	7.9	1 493	16.5
Bahia (BA)	22 973	7.7	95	1.1
Paraíba (PB)	8 461	2.8	104	1.1
Santa Catarina (SC)	5 696	1.9	321	3.6
Other states	12 392	4.2	603	6.7
<i>Total</i>	<i>298 659</i>	<i>100</i>	<i>9 032</i>	<i>100</i>

Source: Prepared by the author on the basis of statistics obtained from *Relação Anual de Informações Sociais* published by the Ministry of Labour and Employment in Brazil.

TABLE 3

Employment in the footwear and leather industries in Rio Grande do Sul by establishment size, 2005

Size	Footwear manufacture		Tanneries		Total	
	Employment	%	Employment	%	Employment	%
Microenterprise	11 044	8.7	656	4.3	11 700	8.2
Small	29 629	23.4	3 026	20	32 655	23
Medium-sized	39 781	31.4	8 571	56.5	48 352	34.1
Large	46 330	36.5	2 908	19.2	49 238	34.7
<i>Total</i>	<i>126 784</i>	<i>100</i>	<i>15 161</i>	<i>100</i>	<i>141 945</i>	<i>100</i>

Source: Prepared by the author on the basis of statistics contained in *Relação Anual de Informações Sociais* published by the Ministry of Labour and Employment.

The trend of production in the footwear industry in Brazil can be divided in two historical phases. In the first, from the start of the activity in the country until the end of the 1960s, production targeted the domestic market. The second phase starts at the end of that decade when the sector begins producing for the external market, taking advantage of the relocation of footwear production from developed countries to regions of the world that have plentiful supply of cheap labour, such as Brazil, the Republic of Korea and Taiwan Province of China.¹⁰

The first Brazilian footwear exports were shipped in 1968, and they started to expand from 1970 onwards, as shown in Table 4.

As table 4 shows, foreign sales of Brazilian footwear expanded rapidly in the 1970s. The physical volume exported grew by roughly ninefold in just five years from 1970 to 1975, and this performance was maintained until the mid-1990s, albeit at a slower pace.

Nonetheless, the Brazilian footwear sector entered the foreign market in a subordinate role, operating merely with outsourced capacity; and this remains the case today. In other words, footwear design, final sale of the product to consumers, marketing and price setting, have always been controlled by the importer. Exports were mainly sent to the United States market, which from then became the main individual buyer of Brazilian footwear. The products exported were relatively simple—sandals for the women's footwear segment—produced in large batches and with price as the main competitive attribute. Although the quality of the footwear produced in the sector improved

¹⁰ Brazil also implemented tax incentives and a policy of small exchange-rate devaluations, as from 1968 (Costa, 2004).

TABLE 4

Brazilian footwear exports, 1970-2006

Year	Millions of pairs	Dollars F.O.B. (Millions)
1970	4	8
1975	35	165
1980	49	387
1985	133	907
1990	143	1 107
1993	201	1 846
1995	138	1 414
1999	137	1 278
2000	163	1 547
2001	171	1 615
2002	164	1 449
2003	189	1 549
2004	212	1 809
2005	189	1 886
2006	180	1 854

Source: Prepared by the author on the basis of statistics obtained from *Sistema de Análise das Informações de Comércio Exterior via Internet* (ALICE-Web) of the Ministry of Development, Industry and Foreign Trade of Brazil (MDIC) [online] <http://alicesweb.desenvolvimento.gov.br>. and Abicalçados (Brazilian Footwear Industries Association) (2005), *Resenha estatística*, [online] <http://www.abicalcados.com.br>.

through time, partly as a result of technological dissemination in terms of the machinery, equipment and materials used in the activity internationally, its competitiveness was always based on low production cost.¹¹ This point is relevant for understanding the spatial movement of the activity not only in Brazil, but also elsewhere in the world.

Brazilian footwear exports were produced by firms in the Vale do Sinos footwear cluster, in Rio Grande do Sul, and their counterparts in Franca, in the state of São Paulo. Table 5 shows the footwear-export shares of selected Brazilian states. Exports of women's shoes quickly became concentrated in the Vale do Sinos cluster, reflecting its specialization pattern, with Franca specializing in men's footwear. Participation by other Brazilian states in exports is relatively recent.

TABLE 5

Footwear-export share of selected Brazilian states by value, 1996-2006
(Percentages)

Year	RS	SP	CE	BA	PB	MG	SC
1996	88.6	9.5	0.6	...	0.2	0.2	0.6
1997	88.1	8.3	2.3	...	0.3	0.2	0.6
1998	86.0	7.4	4.9	0	0.7	0.2	0.4
1999	84.9	7.1	5.6	0.1	1.3	0.3	0.5
2000	83.5	8.7	5.2	0.3	1.1	0.4	0.4
2001	81.5	8.2	6.6	0.5	1.6	0.7	0.4
2002	80.4	8.0	7.6	1.1	1.6	0.3	0.5
2003	74.1	9.4	10.8	1.8	2.0	0.7	0.5
2004	70.3	12.2	10.3	2.8	2.1	0.9	0.5
2005	69.3	12.6	10.8	3.0	1.9	0.9	0.5
2006	67.6	11.3	12.8	3.4	2.3	0.8	0.5

Source: Prepared by the author on the basis of statistics obtained from *Sistema de Análise das Informações de Comércio Exterior via Internet* (ALICE-Web) of the Ministry of Development, Industry and Foreign Trade of Brazil (MDIC) [online] <http://alicesweb.desenvolvimento.gov.br>.

RS: Rio Grande do Sul. SP: São Paulo. CE: Ceará. BA: Bahia. PB: Paraíba. MG: Minas Gerais. SC: Santa Catarina.

This rapid incursion of Brazilian footwear on the external market had far-reaching economic and social implications in the Vale do Sinos region. When exports began, the "Vale" region, as a footwear producer, involved just a few neighbouring municipalities, such as São Leopoldo, Estância Velha, Campo Bom, Sapiranga and Novo Hamburgo. The latter became the hub of the activity and has been recognized as the "national footwear capital" ever since.

As this is a labour-intensive and relatively unmechanized activity, the rate of growth of orders from abroad called for a major expansion of the sector, with consequent additional demand for labour, raw materials and other inputs. As the labour supply available in those municipalities was insufficient to meet demand from the firms, workers were drawn in from various localities in Rio Grande do Sul, as a result of individual initiatives by workers themselves, and actions promoted by the firms.¹² A recruitment

¹¹ Obviously, several elements affect final competitive performance. Schmitz (1999 a and b) seeks to explain the competitive path of the footwear sector in Vale do Sinos through what is known as "collective efficiency", in other words apart from the externalities produced by the productive cluster, there is the joint action of entities and firms in developing the local activity. This is not the place to discuss this point, but merely to observe, for example, that the exchange rate arising from the macroeconomic environment has played a key role in the competitive difficulties faced by the sector, as will be seen below.

¹² These workers, most of them from the countryside, but also from other productive activities, seldom had any training in footwear production tasks. Some of them even found it hard to adapt to factory discipline. That labour force profile, linked to the need to meet high-volumes footwear orders of a single model and with one or two colours, led to the introduction of the conveyor belt and "Taylorist-Fordist" models of work organization which, according to Costa, Deberofski and Spricigo (2007), occurred at the start of the 1970s.

scheme used at the time involved dispatching buses to other municipalities in Rio Grande do Sul, which would circulate through the cities to “pick up” workers. The company representative on board the bus would use a megaphone to advise local inhabitants of job vacancies in the industry.¹³

Obviously this required an expansion of urban infrastructure in terms of housing, transport and schools, which also was supported by the municipal authorities. The growing population density not only raised the cost of reproducing the labour force but also spawned the social disadvantages associated with greater agglomeration, which led the firms to change their labour recruitment strategy. Instead of making workers travel to the municipalities in which the company’s headquarters were situated, the latter started to set up additional plants in the municipalities where the workers lived, with a twin purpose: to reduce the pressure on urban infrastructure and to avoid higher labour costs. Employees working in their home neighbourhood could be paid less than those working at headquarters, because those living in agricultural areas would have access to horticultural and farm products, as well as the opportunity to participate in a subsistence activity of some kind (Costa and Fligenspan, 1997).

The geographical boundaries of the Vale do Sinos footwear industry cluster thus started to spread beyond its original municipalities. In research on the migration of footwear firms from Vale do Sinos to the Brazilian north-east, which considered 42 medium-sized and large firms, Costa and Fligenspan (1997) found that some had plants in other municipalities of Rio Grande do Sul, in addition to that of their main headquarters; and a total of almost 30 localities were detected where there was another production unit.

The expansion conditions for Vale do Sinos firms both in the region and elsewhere in Rio Grande do Sul lasted until the mid-1990s, when the sector was confronted by a new competitive environment. The changes in the basis of competition in the sector relate to two main types of factors. One of them stems from the macroeconomic policy implemented by the Brazilian government following the launch of the Real Plan in July 1994, which attempted to stabilize the economy through monetary and exchange-rate policy. By pegging the exchange rate between the

real and the United States dollar, an exchange-rate appreciation was generated which, while effective for keeping domestic prices in check, made export products such as footwear less competitive.¹⁴

The second set of factors concerns the presence on international markets of footwear made by competitors operating under a much more favourable productive conditions than their Brazilian counterparts, including Asian producers particularly from China and Vietnam. Drawing on the supply of abundant labour earning much lower wages than those paid in other footwear-producing countries, the Chinese started to attract demand from customers that previously purchased from Brazilian, Italian, Mexican, Taiwanese and other firms.¹⁵ For the Brazilian footwear industry in particular, which competes on price, the exchange-rate appreciation and competitors with lower production costs had a drastic impact on its export performance.

Foreign markets were lost because, as from the mid-1990s, firms operating as intermediaries between footwear importers and Brazilian manufacturers whose business units were located in Vale do Sinos, started to move to the city of Dongguan in the Guangdong region of southern China, in pursuit of lower-priced footwear. In an interview with the newspaper *Folha de São Paulo* (20 November 2008, p. B7), the owner of one of those firms, Paramount Asia, the largest exporter of women’s shoes from China, cited competitive difficulties faced by local producers making cheap footwear from synthetic material, compared to those produced in Asia stated as the reason for leaving Brazil. The firms also took experienced Brazilian

¹³ This brief undocumented “history” was recounted to the author by a manager of the firm located in Campo Bom during the research undertaken by Costa and Fligenspan (1997).

¹⁴ The nominal exchange rate fell from R\$ 0.94 to R\$ 0.84 per dollar between July and December 1994; and Guimarães (1995, cited in Costa and Fligenspan, 1997) estimates the appreciation of the Brazilian currency at 10.6% in real terms, comparing its average 1994 dollar value with its value in December 1996. Moreover, if the comparison is made between that month and earlier periods, using the average values for 1991 and 1992, the appreciation amounts to 30.2%. Exchange-rate policy remained relatively rigid until January 1999, when the Government changed the currency regime and put the real into a free float; whereupon it depreciated from R\$ 1.21 per dollar on 12 January 1999 to R\$ 1.98 on 29 January 1999—a 63.3% rise in the nominal exchange rate in under a month (www.ipeadata.gov.br consulted on 8 December 2006). From 2004 onwards, the real appreciated once again: having reached a level of R\$ 3.95 per dollar in October 2002, its nominal exchange rate was fluctuating around R\$ 1.80 per dollar in late 2009 and early 2008.

¹⁵ The dissertation by Machado (1997) shows, for example, that the average monthly wage in the sports footwear segment was US\$ 100 in Vietnam, US\$ 120 in China, US\$165 in Indonesia, US\$ 188 in Thailand and US\$190 in Taiwan Province of China, compared to US\$ 295 in Brazil.

workers with them to China, to supervise and provide quality control for production in Chinese factories that received footwear orders. There is currently a Brazilian community in that region, most of which originally came from Vale do Sinos.

As shown in table 6, Brazilian footwear exports to the United States have stalled in absolute terms, although that country is the main individual purchaser of footwear on the international market; this trend represented a fall in market share from 9.2% in 1990 to 4.7% in 2004. The Chinese, on the other hand, who until the mid-1980s had a very small presence in the United States statistics, contributing just 1.9% of that country's footwear imports in 1981 (Santos and others, 2002), gradually began to gain market share and by 2004 were making 83.5% of the shoes imported by the United States.

The effect of this competitive pressure on the Brazilian footwear industry provoked a major crisis in the sector, with a nominal export values dropping from a total of US\$ 1.85 billion in 1993 to US\$ 1.28 billion in 1999, with concomitant job losses. According to data contained in *Relação Anual de Informações Sociais* published by the Ministry of Labour and Employment, the number of workers in the footwear industry nationwide fell by about 56,000, from 240,600 in 1994 to 184,700 in 1998. The Rio Grande do Sul footwear sector shed over 33,000 workers in that

process, with the number of employees falling from 128,900 in 1994 to 95,500 in 1998.

Responding to the competitive pressure required support from the Government, together with defensive actions such as the business closure, job losses, and capacity downsizing. A rise in tariff barriers and the granting of credit lines for productive modernization of the sector were the first public-policy measures adopted at that time. In the business domain, especially in the case of large firms, proactive measures were adopted such as the relocation of productive units, this time not to other localities of Rio Grande do Sul but to regions of the country that offered production conditions capable of allowing the sector to face the competition in domestic and external markets, particularly from China, while maintaining some production activities in Vale do Sinos. This migration was assisted by the fact that some Brazilian states, especially Ceará and Bahia, offered a set of tax, financial and labour-hiring incentives to attract investment and create jobs.

The north-eastern states focused mostly on labour-intensive sectors such as footwear (Costa and Fligenspan, 1997; Santos and others, 2002). That practice, which would become widespread in the mid-1990s within the framework of the "tax war", arose because of the lack of national public policies to coordinate and promote industrial investment.

TABLE 6

United States footwear imports by country of origin: 1990-2004

Country	1990		1995		2000		2004	
	Thousands of pairs	Percentage	Thousands of pairs	Percentage	Thousands of pairs	Percentage	Thousands of pairs	Percentage
China	395 719	35.3	949 419	67.4	1 368 344	77.5	1 772 464	83.5
Brazil	103 428	9.2	97 042	6.9	98 540	5.6	98 834	4.7
Indonesia	33 911	6.6	93 177	6.6	76 145	4.3	46 728	2.2
Vietnam	0	0	325	0	7 319	0.4	43 707	2.1
Italy	46 109	4.1	45 680	3.2	52 287	3.0	35 264	1.7
Thailand	34 636	3.1	30 910	2.2	27 571	1.5	25 305	1.2
Hong Kong Special Administrative Region	19 195	1.7	15 469	1.1	10 577	0.6	19 058	0.9
Mexico	26 178	2.3	33 015	2.4	34 748	2.0	15 722	0.7
Taiwan Province of China	188 841	16.9	25 924	1.8	13 740	0.8	13 139	0.6
India	3 992	0.4	6 958	0.5	7 096	0.4	8 037	0.4
Rest of the world	268 653	24	111 313	7.9	68 533	3.9	45 503	2.1
<i>Total</i>	<i>1 120 662</i>	<i>100</i>	<i>1 409 232</i>	<i>100.0</i>	<i>1 764 900</i>	<i>100.0</i>	<i>2 123 761</i>	<i>100</i>

Source: (Alessandro Ramos Carloni and others, *Setor de calçados: competitividade, mudança tecnológica e organizacional*, vol. 1, Brasília, SENAI/DN, 2007, table 9).

From the mid-1990s onwards, large numbers of footwear firms from the Vale do Sinos and Franca clusters, especially the former, set up business in the north-east. A scan of national newspapers for reports on the opening of footwear manufacturing plants in the north-east shows that, since 1997, there has been a migration towards several cities in those states, particularly Bahia, as shown in table 7.¹⁶

Once established in the north-east, some firms started to expand their production capacity in the region by adding new productive units. Examples include Calçados Azaléia, Dakota Calçados and Calçados Paquetá, among others. The relocation of production gave those states an increasing share of sector exports and employment. Data on the percentage distribution of footwear exports by Brazilian states shown in table 4 illustrate the shift of the origin of

external sales towards the north-eastern region of the country. The states of Ceará, Bahia and Paraíba, which had less than 1% of footwear exports in 1996, were accounting for 18.5% of such exports 10 years later. Table 8 reports the corresponding shares of employment in the sector.

As from 1997, jobs in the Brazilian footwear industry tended to migrate towards the states of the north-east, particularly Bahia and Ceará, and away from Rio Grande do Sul and São Paulo. In 1996, those two north-eastern states accounted for 5% of employment, but by 2006 they accounted for 24.5% of workers employed in the sector nationwide. In contrast, the share of the states of Rio Grande do Sul and São Paulo declined in that period by about 20 percentage points, from 77.6% to 57%.

Nonetheless, the removal of firms to the north-east was not just a way to respond to importers' orders. For some firms, the production undertaken there also aims to supply the domestic market. For example, the Grendene firm, originally from the municipality of Farroupilha in Rio Grande do Sul, transferred its production of footwear using plastic materials to the north-east, setting up several plants in the state of Ceará; but it kept its product development activities in Farroupilha. According to the firm (newspaper *Valor*, 16 August 2008, p. A4), 85% of its production was for the domestic market in 2007.

¹⁶ The first column of the table only lists firms that relocated their productive units to the north-east. The listing is illustrative rather than exhaustive, because more firms are known to have migrated to that region. The other two columns identify the municipalities in the states of Bahia and Ceará where these firms set up business. Some of them have establishments in more than one municipality, but the author is not interested in listing each firm with the municipality in which it set up, since that would make the table unduly large and add little analytical content to the text. Nonetheless, including a spread of the municipalities reveals that the firms, by migrating, did not expect to consolidate or benefit from an already developed cluster of footwear producers in the region.

TABLE 7

Footwear firms from Rio Grande do Sul which set up production units in the state of Bahia, Ceará or both

Firms from Rio Grande do Sul	Localities in Bahia	Localities in Ceará
Calçados Belpasso, Calçados Bibi, Calçados Cariri, Calçados Jacob, Calçados Orquídea, Daiby, Dakota Calçados,	Alagoinhas, Amargosa, Castro Alves, Conceição do Coité, Conceição do Jacuípe,	Baturité, Canindé, Crato, Iguatu, Itapajé, Maranguape, Pentecoste,
Dal Ponte, Dilly, Gredene, Heinrich, J W Calçados, Killing Tintas e Adesivos, Leve, Luigi Calçados, Maide, Paquetá Calçados, Ramarim, Trevo, Via Uno, Vulcabrás, West Coast	Coração de Maria, Cruz das Almas, Feira de Santana, Ipiaú, Ipirá, Irará, Itaberaba, Itabuna, Itapetinga, Jequié, Santo Amero da Purificação, Santo Antonio de Jesus, Santo Estevão, São Francisco do Conde, Serrinha, Teixeira de Freitas, Terra Nova, Valente, Vitória da Conquista	Quixadá, Russas, Sobral, Umirim, Uruburetama

Source: Prepared by the author on the basis of news items obtained from national newspapers in several periods, and from other sources.

Note: Three firms on the list belonged to footwear auxiliary segments.

TABLE 8

Share of employment in Brazilian footwear industry, selected states 1994-2006

Year	Brazil	RS	Percentage	SP	Percentage	BA	Percentage	CE	Percentage	PB	Percentage	Other	Percentage	Total
1994	240 655	128 882	53.6	63 836	26.5	264	0.1	5 081	2.1	5 497	2.3	37 095	15.4	100
1995	196 462	113 692	57.9	41 839	21.3	229	0.1	6 339	3.2	5 688	2.9	28 675	14.6	100
1996	202 768	116 602	57.5	40 752	20.1	153	0.1	9 968	4.9	7 261	3.6	28 032	13.8	100
1997	182 687	101 814	55.7	35 743	19.6	237	0.1	14 449	7.9	6 398	3.5	24 046	13.2	100
1998	184 725	95 526	51.7	34 478	18.7	1 626	0.9	20 243	11	7 297	3.9	2 555	13.8	100
1999	211 582	108 026	51.1	41 452	19.6	4 967	2.3	22 880	10.8	7 758	3.7	26 499	12.5	100
2000	240 392	120 596	50.2	46 613	19.4	8 350	3.5	27 287	11.3	8 359	3.5	29 187	12.1	100
2001	248 829	129 591	52.1	45 609	18.3	10 431	4.2	27 353	11	7 883	3.2	27 962	11.2	100
2002	262 537	130 510	49.7	46 586	17.7	11 856	4.5	36 770	14	6 700	2.6	30 115	11.5	100
2003	272 124	129 311	47.5	48 009	17.6	15 418	5.7	41 454	15.2	6 185	2.3	31 747	11.7	100
2004	312 579	143 022	45.8	56 993	18.2	19 781	6.3	45 982	14.7	7 192	2.3	39 609	12.7	100
2005	298 659	126 784	42.5	54 570	18.3	22 973	7.7	44 268	14.8	8 461	2.8	41 603	13.9	100
2006	295 222	116 524	39.5	51 681	17.5	24 282	8.2	48 309	16.3	11 692	4	42 734	14.5	100

Source: Prepared by the author on the basis of statistics contained in *Relação Anual de Informações Sociais*, published by the Ministry of Labour and Employment of Brazil

RS: Rio Grande do Sul. SP: São Paulo. CE: Ceará. BA: Bahia. PB: Paraíba.

The exchange rate has played a key role in the trend of total employment in the Brazilian footwear sector, through the decline in exports. As noted above, employment declined when the local currency appreciated in real terms between 1994 and 1998 (see table 8), but then rebounded when the exchange rate returned to more competitive levels in 1999-2004. From 2004 to 2008, when the real appreciated once again, exports declined and employment in the sector fell back, although to a lesser extent owing to demand from the domestic market. The trend of employment in the sector is thus closely related to its export capacity, as shown above in table 5.¹⁷ These adverse effects on activity caused the Government to provide assistance to the sector once again. In April 2007, it imposed tariff restrictions on imported footwear, by raising the import quota (common external tariff) from 20% to 35%, the maximum allowed by the rules of the World Trade Organization (WTO).

In additional support, the Government promoted a credit line for firms through the National Economic and Social Development Bank (BNDES), drawing on resources held in the Worker Protection Fund (FAT), to offer conditions for sector modernization. Nonetheless, as regards the effectiveness of this incentive, it should be noted that the sector's competitive difficulties do not stem from obsolescence in the productive apparatus, but from the exchange rate and labour costs relative to those of Asian countries. The technological upgrading

process had already taken place, following the first crisis that began in 1994 (Costa and Fligenspan, 1997). Firms continued to move their productive units to the states of the Brazilian north-east for no other reason.

The sector's effort to remain price-competitive in the market had a major effect on the labour market, causing deteriorating job quality. As shown in table 9, wage ranges narrowed throughout the period 1995-2006, which led to an increase in the number of workers receiving lower pay. In 1995, just 18% of workers employed in the sector earned up to 1½ times the minimum wage, whereas in 2006, 62% of employed workers were in that pay bracket. Higher paid workers (above five times the minimum wage) accounted for 9.9% of the total in 1995, but just 3.4% by 2006.

The adjustment in that most recent phase is a new departure: firms from Vale do Sinos are also starting to set up production units outside the country: Calçados Paquetá is inaugurating a plant in Argentina.¹⁸ Calçados Azaléia has marketing units in Colombia and has opened an office in China from which it outsources footwear production to supply its customers in the United States; and West Coast is outsourcing its production in Argentina, India and Guatemala (*Valor*, 6 and July 2007, p. B6). Another line of action is the effort made by firms to diversify

¹⁷ Exports represent about 30% of total sector production.

¹⁸ In the case of this firm, the decision was taken to avoid the trade restrictions on Brazilian footwear imposed by that country.

TABLE 9

**Number of workers in the Brazilian footwear industry by average income level
(relative to the minimum wage), 1995-2006**

Income bracket	1995	Percentage	2000	Percentage	2003	Percentage	2006	Percentage
Up to 1.5 times the minimum wage	35 367	18	83 563	34.8	129 900	47.7	182 949	62
1.5 to 3 times the minimum wage	110 134	56.1	122 033	50.8	114 929	42.2	91 435	30.9
3 to 5 times the minimum wage	31 524	16	20 825	8.6	15 441	5.7	10 857	3.7
5 to 15 times the minimum wage	15 159	7.7	11 221	4.7	9 869	3.6	6 827	2.3
+ 15 times the minimum wage	2 067	1.1	1 713	0.7	1 546	0.6	799	0.3
Not classifiable	2 211	1.1	1 037	0.4	439	0.2	2 355	0.8
<i>Total</i>	<i>196 462</i>	<i>100</i>	<i>240 392</i>	<i>100</i>	<i>272 124</i>	<i>100</i>	<i>295 222</i>	<i>100</i>

Source: Prepared by the author on the basis of statistics contained in *Relação Anual de Informações Sociais* published by the Ministry of Labour and Employment of Brazil.

Note: The category "not classifiable" corresponds to the number of workers who did not provide information or provided erroneous information.

markets, and operate more independently in terms of marketing their footwear internationally. Selling directly to the final importers is a trade policy which large firms in particular are pursuing by setting up distribution centres abroad, and selling to the importer, while using the latter's brands. Another type of action involves selling abroad through franchises. The pursuit of other attributes to enable firms to compete and operate in different market niches leads them to develop their own brands, by setting up internal departments or sectors to develop fashion products, either working on design themselves or hiring professional services with that specific skill. Those initiatives have attracted attention from large and small firms alike (Schuh, 2006), and also from institutions working in the sector (Costa, 2007). In terms of institutional partnerships, projects in the sector between the Brazilian Footwear Industries Association (Abicalçados), the Brazilian Association of Companies of Components for Leather, Footwear and Accessories (ASSINTECAL), and others, and the Brazilian Trade and Investment Promotion Agency (APEX) have made it possible to increase the number of countries to which the sector supplies footwear

products. The mechanisms used in such case are business roadshows, trade missions and assistance to enable firms to participate in international trade fairs.

Meanwhile, the search for other attributes of competitiveness calls for structural changes at the enterprise and sector levels to make those initiatives viable; and these take time to mature. For example, the positioning of a footwear brand requires sustained financial investment over time. Moreover, the transition from price competition to competition based on some other product characteristic is slow and costly. Generally, own-brand and design footwear is manufactured in small batches and workgroups. This in turn requires changes in the layout of production and workers with skills other than those required for more standardized volume production. Nonetheless, volume orders are not expected to disappear, at least in the foreseeable future; so firms, particularly the large ones, will continue to seek to respond to those demands. Ultimately, the search for regions offering competitive conditions with lower production costs will remain the basis for strategic decision-making by the sectors' firms.

IV

Final thoughts

The Brazilian footwear industry, particularly the Vale do Sinos productive cluster, is undergoing major changes of direction in response to a new competitive environment defined by two key factors: the frequent periods of exchange-rate appreciation since 1994, and the presence of competitors on international markets with more favourable production conditions.

Footwear manufacture is one of the founding sectors of Brazil's national industry. Production on Brazilian soil, although present in various states, has from the outset been concentrated in Rio Grande do Sul and São Paulo—in the first of these states, in the Vale do Sinos region; and in the second, in the city of Franca.

Until the late 1960s, the sector consisted of small and medium-sized firms, producing for the domestic market and using craft-based work processes. By the end of that decade, the industry—particularly the Vale do Sinos segment—was entering the international market, taking advantage of the shift of footwear production from developed countries to regions offering better productive conditions in terms of labour supply and low wages. This incursion happened in a subordinate way, with the importer deciding on the outsourced production, the model and the price paid to the manufacturer, as well as marketing to the final consumer. Owing to the size of orders coming from abroad, which involved production runs of hundreds of thousands or more, and little variety, satisfying that demand allowed for rapid and extensive growth and led to far reaching structural changes in the sector.

In terms of working practices, production for the external market led to the introduction of “Taylorist-Fordist” organization methods to make footwear in large volumes in just one or two colours. As a direct-labour-intensive activity, large-volume footwear manufacturer required huge numbers of workers on the factory floor; and this attracted large numbers of workers from other cities in Rio Grande do Sul to the export-pioneering municipalities, such as Novo Hamburgo, São Leopoldo, Campo Bom y Sapiranga. It also caused footwear firms to transfer their production units to other locations in the state. This relocation caused a geographic expansion of the “Vale”, which raised the productive profile of other municipalities.

Until the mid-1990s, the geographical expansion of Vale do Sinos footwear production was confined to the state of Rio Grande do Sul. From then on, however, firms in that productive cluster started to relocate their production units in other Brazilian states, particularly Bahia and Ceará, as tax, financial and labour-hiring incentives drew production and employment to the north-eastern region. In 1996, those two states were responsible for just 5% of sector employment nationwide, but 10 years later this had risen to 24.5%. In terms of exports, these two states hardly participated at all in the external market in 1996; but by 2006, along with the state of Paraíba, they accounted 18.5% of Brazilian footwear exports by value. As a counterpart to this, the share of sector employment accounted for by Rio Grande do Sul and São Paulo fell by 20.6 percentage points in the same period. In terms of export value, as the migration of firms to the north-east basically took place from Vale do Sinos, the effect was mainly felt in the state of Rio Grande do Sul, whose share of sector exports dropped from 88.6% in 1996 to 67.6% in 2006. On the labour market, apart from the geographical move, the quality of employment declined throughout the 1995-2006 period, as jobs increasingly slipped into lower pay brackets.

In these first few years of the twenty-first century, footwear firms have also started to move their production out of the country. The pursuit of more competitive conditions in terms of production costs took them to Asia and Latin America, where they have outsourced footwear production lines and set up their own shops, franchises and distribution centres.

Nonetheless, for the sector as a whole, competition based on production cost is increasingly hard to maintain, given the better conditions available to the sector's Asian competitors. One way to overcome this situation is for firms to operate with their own design and brand, sell directly to the final importer, meet smaller orders and ensure swift delivery. But that is a relatively slow course to follow, and it has only just begun.

On a theoretical level, the behaviour of firms belonging to the Vale do Sinos footwear industry cluster raises questions about the evolution of that form of industrial organization. If belonging to a local

productive cluster is a factor of competitiveness, why do firms stop expanding within such arrangements after a certain time, and try to grow outwards, even in localities in which the organizational characteristics of that industry are not fully developed? And, lastly, what are the limits of that form of industrial organization?

As discussed in the theoretical section of this article, this concept requires empirical observation, and each specific industrial district has its own peculiarities. In the case studied here, although footwear production in Vale do Sinos takes place within the structural

characteristics of a cluster, its competitiveness is more related to labour costs and the exchange rate than to any specific property of the cluster itself. Since entering the external market, the sector's development shows that its competitiveness was restricted by the prevailing pattern of competition, namely price. Thus, as long as conditions were favourable for competing on price, the sector expanded. When those conditions were adverse, or faltered, the sector started to face growth difficulties. That is the key to understanding the sector's performance through time.

(Original: Portuguese)

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