THE METALWORKING SECTOR IN THE NORTHWEST OF THE GBA. A LOOK AT LOCAL DEVELOPMENT FOCUSED ON SMES

Goicoechea, María Eugenia

Consejo nacional de Investigaciones Científicas y Técnicas (CONICET)
Instituto de Estudios sociales en contextos de desigualdades, Universidad de José C. Paz (IESCODE- UNPAZ)
megoicoechea@yahoo.com.ar

Dzembrowski, Nicolás

Consejo nacional de Investigaciones Científicas y Técnicas (CONICET)
Instituto de Estudios sociales en contextos de desigualdades, Universidad de José C. Paz (IESCODE- UNPAZ)
ndzembrowski@gmail.com

Reception date: 09/11/23 – Approval date: 18/12/23
DOI: https://doi.org/10.36995/j.visiondefuturo.2024.29.01.002.en

ABSTRACT

This article offers a characterization of the metal-mechanical sector in the northwest of Greater Buenos Aires, particularly in the districts of José C. Paz, San Miguel and Malvinas Argentinas. Based on approaches to local development, we focus on the geographical dimension of the economic framework and SME entrepreneurship. The research includes georeferenced surveys of economic units, cataloging and analysis from a territorial dimension; and also visits to establishments and interviews with their top managers. With this, we seek to advance in the construction of knowledge about the organization of work in metalworking SMEs in the region, their potential for articulation in value chains and weighing the non-economic dimensions of local development.

KEY WORDS: METAL MECHANICAL SECTOR – SMEs - PRODUCTIVE FRAMEWORK - LOCAL ECONOMIC DEVELOPMENT.

INTRODUCTION

The current context of the Argentine economic crisis updates the debates around development for the reactivation of production and the generation of wealth, facing the needs of employment growth, increased income and improvement of the living conditions of the population; but, also, the terms of exchange that guarantee the entry of foreign currency. Faced with this, the issue of development enters the agenda again and again.

The idea of local development had its beginnings in our country in the 1990s, articulated with the recipes of strategic planning and the decentralization of State functions at the municipal levels; all under the context of neoliberal globalization, economic openness and the need to rethink a new relationship between the local and the global. Faced with this,

local development meant a reductionist assimilation of this with the economic growth of the municipal order, through the improvement of infrastructure and economic incentives to promote foreign direct investment, among other measures (Delgado, 2010). Under this approach, industrial parks and centers began to proliferate, located no longer in consolidated urban areas (next to the railway lines and in dense mixed fabrics) but in the peri-urban areas of the third ring of the RMBA and articulated by highways (Bozzano, 2007). According to Arroyo (2007), the profile adopted in these spaces was not productive but extractive.

After the 2001 crisis, views on local development began to prosper, converging with the precepts of the social economy and with the idea of revitalizing the economy "from bottom, (…) to generate a productive framework based on the principles of a cooperative and associative" (Quetglas, 2008). In this sense, local development strategies were aimed at overcoming welfare responses; although on the other hand, there was a lack of attention to other important dimensions of development linked to economic growth.

This recapitulation serves to understand the current context, which would seem to drag that dilemma regarding development oscillating between social integration and economic competitiveness. Among the recent initiatives of public management at the national and provincial level we observe, on the one hand, a return to initiatives to promote the most dynamic sectors of the economy and large-scale private investment, with a look towards large-scale territorial planning[1]; on the other hand, actions aimed at strengthening the local productive network, or consist of individually administered economic incentives; or they are limited to the scope of social assistance, such as the cooperative organization, which is not fully articulated with the productive dynamics of the formal economy.

Faced with these proposals and as a starting point for our research, we maintain that consideration of the territory is essential to bridge the gaps between these opposing views on development. Particularly within the territory, we recognize small and medium-sized companies (SMEs) as key actors within the economic framework to advance the recognition of the productive profile and identity of each area. In this sense, we propose to advance in the study of their actions, subjectivities and meanings that they give to work (in the figure of

[1] We recognize in these initiatives the "Argentina Productiva 2030 Plan" of the Nation. A plan for productive, industrial and technological development that seeks to "Increase quality work, incorporate new technologies into productive activities, increase competitiveness and improve productive sectors and export more and substitute some imports" (Secretary of Industry and Productive Development , Argentine Ministry of Economy, 2023).
For its part, the government of the Province of Buenos Aires promotes an active policy of creating and strengthening Industrial Groups (including Industrial Park, Planned Industrial Sector, Industrial Services and Logistics Area, Business Incubators, Modular Productive Units and Industrial Park Small and Medium). Through the Ministry of Infrastructure and Public Services, it establishes strategic guidelines linked to investment in infrastructure in industrial equipment and logistics activity areas (we recognize as background law 13,744 of 2007, which reformulates the Law of Industrial Parks and planned industrial sectors in force since 1983 and its modification in 2015 under Law 14,792).

their owners), as a way of identifying the intangible assets that make up the socio-territorial identity linked to the work culture. These two components, SMEs in their uniqueness and understood within the geographical environment in which they operate, are central to advancing the design of policies and strategies that promote local productive development by articulating dynamic sectors of the economy with the local framework.

These theoretical or abstract approaches are articulated with an empirical working hypothesis under which this research team has been organizing its lines of action. We focus our attention on the area made up of the districts of San Miguel, Malvinas Argentinas and José C. Paz, raising the possible existence of a productive profile associated with the metal-mechanical sector, until now little considered (especially in José C. Paz). We recognize as advantages the location of the main steel industries (suppliers of the raw materials necessary to sustain this activity), the privileged connection with the nodes of the automotive industry and the proximity to heavily industrialized districts, among other issues that will be developed in the successive sections (Dzembrowski and Goicoechea, 2022)). In this framework, we propose to advance in the characterization of the productive framework of the metal-mechanical sector of the area in question, recovering the approaches to local development and, fundamentally, insisting on the relevance of the geographical dimension and SMEs.

Next, a conceptual approach to the notion of local development is presented. Then, we explore the case study, characterizing the metal-mechanical sector and particularly its weight in the districts of José C. Paz, San Miguel and Malvinas Argentinas. Within the case, we are interested in understanding SMEs in the geographical context in which they are located; as a social system of organizations within the framework of the articulations and links they establish with their environment. But we will also try to stop our gaze on the symbolic dimensions that cross them, their meanings of work and their aspirations, beyond their economic rationality and orientation. Finally, conclusions are outlined.

The study follows a mixed methodological design and is framed in the PITTS-PAID 2022 project “Strengthening the intermediation strategies of the José C. Paz Employment Office: supply and demand for labor profiles of SMEs in the metalworking sector in the northwest of the GBA”, directed by the authors. Among the data collection strategies we highlight the analysis of secondary sources on the productive context of the metalworking industry; georeferenced surveys of social and economic actors associated with the metalworking sector in the districts under study; conducting interviews with key informants from the sector (public and private); participant observation in meetings and meetings of the Government of the Province of Buenos Aires and visits to productive establishments.

THEORETICAL FRAMEWORK: LOCAL DEVELOPMENT AND SMEs

As we argued at the beginning, the notion of local development harbors diverse guidelines that also have dissimilar implications (Boisier, 2001; Delgado, 2010; Vázquez Barquero and Rodríguez Cohard, 2015). Many specialists on the subject agree that local development strategies "from below" or "bottom-up" are important to be incorporated into the design of policies and programs aimed at overcoming poverty, as their approaches require investigate the degree of use of the resources and endogenous potential of the territory and raise the possibility of encouraging new productive ventures and employment-generating activities at the local level (Rofman, 2003; Coraggio, 2004; Albuquerque, 1999). However, local economic development models are also highly considered to think about local competitiveness and specialization, in the face of scenarios of economic globalization and internationalization of activities, against which it is necessary to defend the local productive framework (Albuquerque, 1996, p. 14).

To resolve these differences in approach, and understanding that the potential development of an area depends on its own resources, we propose putting the territory at the center of the analysis, considering it a social agent of transformation and not just a physical support (Albuquerque & Pérez Rozzi , 2013; Madoery, 2008; Vázquez Barquero, 2005 and Méndez, 2002). From the conceptual postulates it does not correspond to a novel approach, while in recent decades many works have warned about territorial configurations of various types, whose economic-productive dynamics with a strongly innovative bias supported authentic processes of endogenous development. Call them industrial districts, technological districts, territorial innovation systems, clusters, innovation environments, among others. For its part, our contribution consists of pointing out that the territory represents the basic unit of analysis to move towards the identification of significant productive profiles, necessary to think about the formation of corridors or productive chains that drive the endogenous development of the areas and their articulation with the larger economic framework. It is also the starting point for the recognition of socio-territorial identity (which includes historical, cultural and social components that are at the very basis of the organization of production and the continuous interaction between the economic and social sphere). In this approach, we follow the dimensions of approaching or considering space proposed by Madoery (2022), recognizing the geographies of power, territorial capacities and the meanings of places. Aspects that are articulated in the definition of spaces for capital accumulation (which define investments and condition the formation of productive networks and insertion into global value chains); local capacities for endogenous development; and the construction of senses of place, such as citizen behaviors and subjective components that contribute to the definition of places as one of opportunity or lack. Another contribution on the problem of local development linked to the territorial scope that we return to suggests that, to meet its

objectives, it must resolve three central aspects: enhance what exists, obtain resources external to the territory and manage the economic surplus that is produced in the territory (Sosa Gonzales, Riquelme Rivero and Diez Valladares, 2020)

As a second issue, we consider it necessary to advance in the identification of the network of actors that participates and intervenes in the study area, which in our case refers to the productive ecosystem of metalworking in the northwest of Greater Buenos Aires.

Following Arocena (1995) we differentiate three categories of actors based on the different action systems and, therefore, the respective action logics. There are actors located in a territory, which is particular and specific:

1) Actors of the business action system, which includes employers and workers, members of employers' and union organizations.

2) Actors of the political-administrative action system, referring to the set of organizations that make up the local administration and their relationship with the national system, linked to public decision-making.

3) Actors of the socio-territorial action system, where NGOs, grassroots social organizations and other “active expressions” of the community's demands and initiatives are integrated.

We will stop at the first of the categories and we have a particular consideration with SMEs, considering them the economic actors par excellence in our territory. Following Delgado (2010), we recognize that SMEs are important to think about the economics of development more than as a solely technical process because it allows us to attend to the identity, cultural and idiosyncratic aspects of work and the knowledge of doing things, which are also fundamental. in economic development (Marsanasco, 2013). SMEs play an essential role in the collective technological learning that underlies innovation, and is the basis of economic dynamism.

In Argentina, these business organizations are regulated by Law 24,467 of 1995, where SMEs are defined as those companies that have up to 40 employees and a certain amount of annual billing, depending on whether they are dedicated to the services, industrial, commercial or agricultural area. However, it is not only a question of size that characterizes an SME, since it is not a large company on a smaller scale, but the difference in size entails a particular form of management and administration, of sources to finance its needs. of capital or the markets in which they enter (Borello, Fritzsche and Barnes, 2007, p. 87). Like the territorial dimension, we maintain that the dimension of the economic actor constitutes the fundamental unit of analysis to address the intangible elements that sustain synegic capital, the basis of development in local productive systems. Following Boisier (2001), we propose to recognize within the SME framework the following capital: cognitive (technical-

scientific knowledge of a community); cultural (stories, traditions and social practices); symbolic; social; civic (the tradition of democratic practices and trust in public and civil institutions); institutional (of the productive articulation between public and private sectors); human (knowledge and skills of people; human (knowledge and skills); and psychosocial (subjective values such as values, stereotypes, representations, collective self-confidence and memory).

Attentive to these issues, we are interested in understanding SMEs and the geographical context in which they are located; from their specificity as companies without losing sight of the internal and external factors that condition their actions.

RESULTS

1. The metalworking sector and its local value weight

The metalworking sector includes productive activities linked to the use of metals, both for the manufacture of pieces, parts or finished products, and is one of the most important sectors within the manufacturing industry due to the number of jobs it generates and its participation in GDP. However, it involves sectors, branches and jobs of various kinds, recognizing within this range from the most dynamic, automated, capital-intensive and formal industries of the economy - such as the automotive industry -; passing through the "white line" light industry (referring to the manufacture of household items and appliances) or machinery for commercial use; to small-scale economic units – SMEs or small workshops – with lower scale production capacity, organic capital and artisanal work. The metalworking industry also includes activities with different levels of complexity and scientific-technical knowledge involved in the production process, including the manufacture of final goods or materials that demand a sophisticated technological base (for example, electromechanics, which uses particular machinery and specific for a type of mass production) (Simone and Bolado, 2009); as well as, low-scale and low-complexity production lines, where the tools and machinery used are usually standardized and with flexible use that adapts to different types of work (Katz, 1986). This complex diversity of tasks, processes and working conditions in the metalworking sector implies different organizational logics in each of the economic units.

First of all, we recognize that the steel industry, on which the metalworking activity linked to iron and steel depends, is highly concentrated[2]. This responds, first of all, to the

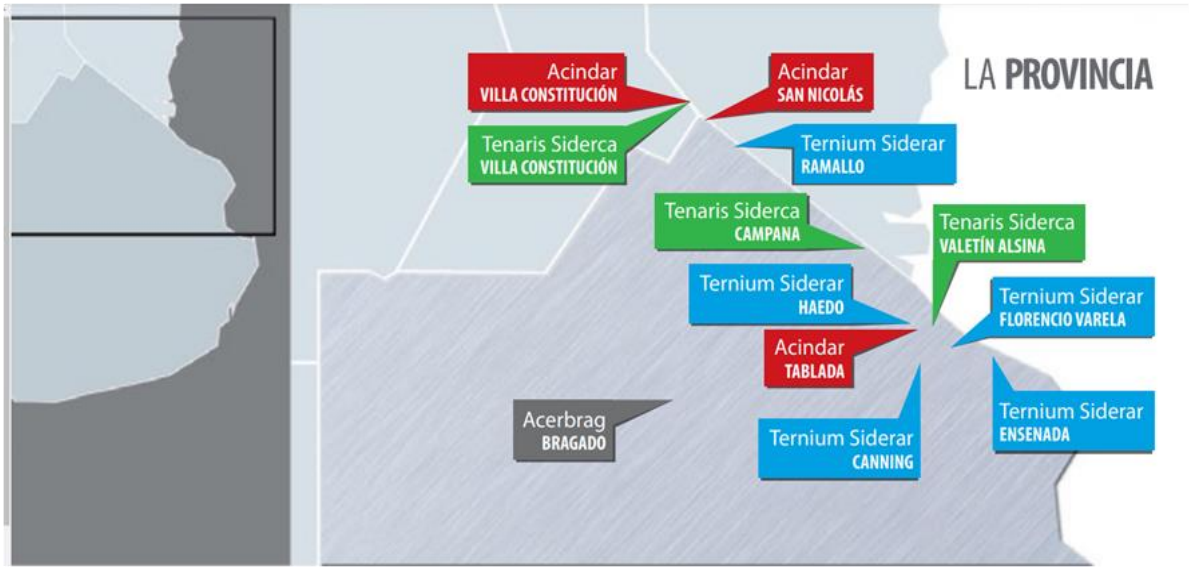
[2] The steel complex is organized according to the type of processes they apply and the type of technology used, differentiating between integrated companies – Siderca, Siderar and Acindar – and non-integrated companies – Aceros Zapla (located in the province of Jujuy), AcerBrag (in Bragado, province of Buenos Aires) and Sipar Geradu (in the province of Santa Fe). The productive activity is concentrated in these 6 firms, in all its stages (casting, steelmaking and laminating).

very characteristics and needs of production, which is capital intensive and technologically mature. The large amounts required to install a steel mill and the minimum scale necessary to optimize these investments largely explain the predominance of a small group of companies in the activity (Ministry of Economy of Argentina, 2021). Secondly, local macroeconomic policies tended to deepen this concentration, since during the 1990s the process of economic neoliberalization marked by the convertibility model, financial openness and the attraction of foreign direct investments, together with the policies of privatization, implied a restructuring of the steel sector that towards the new millennium acquired oligopolistic characteristics (Jerez, 2019).

In turn, this economic concentration also conditions and defines a geographical concentration, particularly around the northwest corner of the province of Buenos Aires. Currently, 95% of national production is concentrated in three large companies: Acindar, Siderar and Siderca (Professional Council of Economic Sciences of the Province of Buenos Aires, 2013) located – their main plants – in General Rodríguez, Campana. and San Nicolás, respectively; which leads to an economic framework linked to steel being configured around them (Figure 1). Consequently, metalworking is developed mainly in the Province of Buenos Aires, the Autonomous City of Buenos Aires, Córdoba and Santa Fe, concentrating 90% of the national metalworking universe. These are small and medium-sized companies with between 10 and 20 people on average and large companies that have more than 150 employees (Secretariat of Equity and Employment Promotion- Government of the province of Córdoba, 2017).

Figure 1

Location diagram of the main steel companies.



Source. Realidad profesional, 2014

Associated with the steel industry, the automotive industry represents one of the most dynamic economies in the metalworking sector and, as expected, industrial and auto parts plants are also concentrated in the productive triangle of Córdoba, Santa Fe and the north of the Province of Buenos Aires. . Within the latter, the Toyota, Ford, Volkswagen, Peugeot, Citroën and Mercedes Benz terminals operate, which in total have an installed annual capacity of 650,000 units, with highly internationalized production and products destined mostly for export. For example, Toyota exports 80% of its production to more than 30 countries; while Peugeot and Citroën (PSA) regularly export to MERCOSUR countries (Secretariat of Economic Policy, Ministry of Economy of the Nation, 2021). However, the auto parts chain is articulated with various activities that involve a variety of economic sectors, mainly industrial and services (metalworking, metallurgical, textile, rubber, glass, etc.). In this sense, it is strategic for thinking about productive linkages that promote local economic development and regional economic integration.

2. Description of the study area and its metal-mechanical profile

For the purposes of this investigation, we delimit the northwest of the GBA from the districts of José C. Paz, San Miguel and Malvinas Argentinas, which in total concentrate an area of 196.05 km2 and, according to data from the National Population Census, Home and Housing in 2022 house 1,001,921 inhabitants, with similar population proportions.

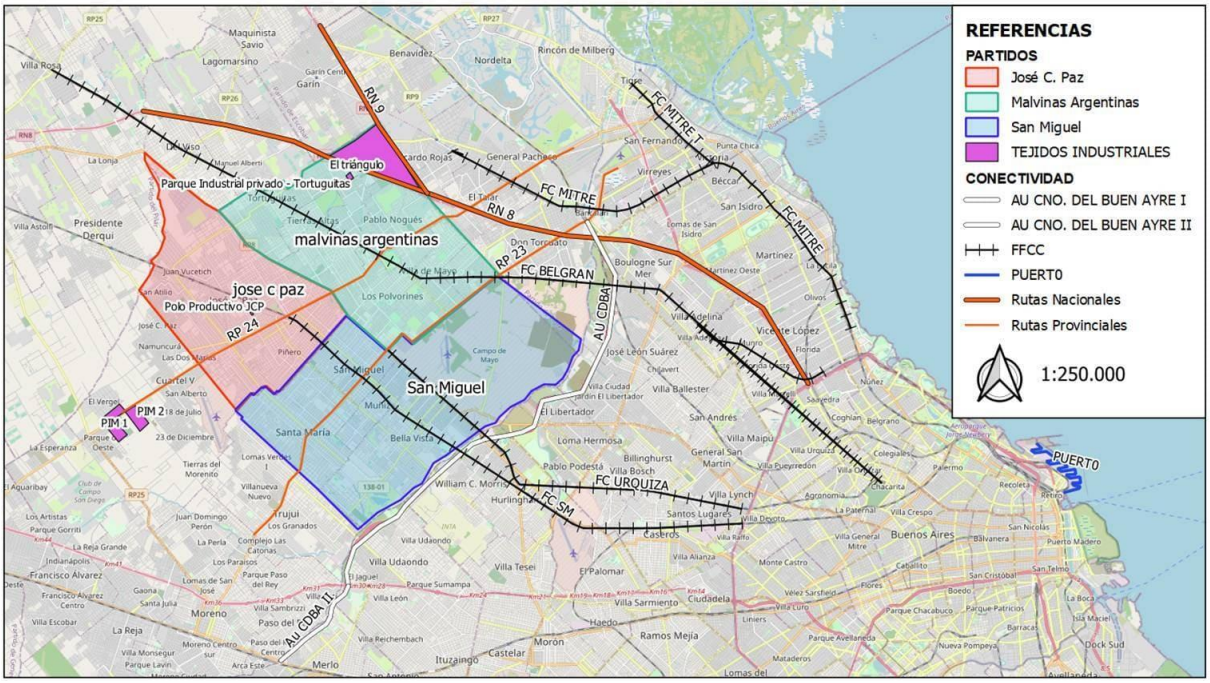
It is an area strategically linked to the industrial productive belt (Figure 2), which includes the northern corridor from the Port of Buenos Aires and extends to the Provinces of Córdoba and Santa Fe. On a macro scale, the intersection in the north with the national routes n° 9 and n° 8, fluidly link it with the City of Buenos Aires and, particularly with the port. Also the recent construction of the highway “Camino del Buen Ayre” (in coordination with the construction project of the third metropolitan ring road from the completion of the works of the highway Presidente Perón) open the possibility of greater links with other points of the port system, such as the Port from La Plata (Dzembrowski, Andrieu, Fernández, 2022). On a smaller geographical scale, provincial routes n° 23 and n° 24 structure and guide the economic articulation in its entirety, with the productive nodes of Gral. Pacheco and the El Triángulo Industrial Promotion Area from the north and with the Industrial Parks of Moreno towards the south. Also the proximity to San Martín, the most industrialized district of the city, stimulates the economic activation of the sector.

Finally, while highways and routes organize the circulation of goods and raw materials necessary for production; Railway tracks define the circulation of passengers and

labor. In this sense, in San Miguel and Malvinas Argentinas we observe good provision of the FFCC, with roads that extend from east-west and that expresses the center-metropolitan periphery link.

Figure 2

Connectivity of the study area. Parties of José C. Paz, San Miguel and Malvinas Argentinas. 2022



Source. Own preparation

Moving forward in the diagnosis of the area, we recognize the existence of a network of educational and government institutions that contribute to its productive development. In principle, we highlight the presence of the national universities of José C. Paz (UNPAZ) and General Sarmiento (UNGS), and particularly of the institutes and areas dedicated to training in these disciplinary fields and to community outreach and research-based in a territorial work[3]. We also recognize a headquarters of the National University of Luján (UNLU) and the University of Buenos Aires - San Miguel Campus. The training offer in trades for the middle level includes 10 Technical Secondary Education Schools (4 in JCP, 3 in Malvinas Argentina and 3 in San Miguel) and non-formal Education programs. At this level, we are interested in pointing out the actions that the Provincial Council of Education and Labor (COPRET) of the Province of Buenos Aires has been developing since 2022, together with the municipal

[3] From UNPAZ, the Institute of Studies for productive development and innovation. The Industry Institute operates at UNGS, which integrates related careers. Likewise, it investigates from a multidisciplinary perspective the technological, economic, social and political conditions of economic agents, with an emphasis on SMEs. Also from the Conurbano Institute, the UNGS carries out the socio-labor insertion programs ENREDES and El Centro Asistencia MiPyME.

(particularly the JCP Employment Office) and educational agencies. COPRET depends on the General Directorate of Culture and Education and is proposed as a space for articulation between the provincial educational system, in its different levels and modalities, and the sectors linked to the development of production and work, both public and private (Dzembrowski , Goicoechea and Barú, 2023).

Regarding employment characteristics, they are parties with similar unemployment levels, close to the GBA average (which in the first quarter of 2022, according to data from the EPH INDEC, affected 7.3% of the economically active population), but with high informality values. The formal employment density index[4] for the GBA in 2019 was on average 127.56 (with parties, such as Vicente López, with maximum levels reaching 441.02); while in José C. Paz it barely reached 34.75, in San Miguel 92.38 and in the Argentine Malvinas, 104.26. Among other data that contribute to the social characterization of employment in the sector, we can point out that the proportion of people with a completed university degree (1.74% in Malvinas Argentinas, 3.88% in San Miguel and 1.11% in José C. Paz), is comparatively low in relation to the total GBA (4.69%).

In general, in economic terms, we identify, based on research background and secondary sources on the composition of the industrial branches and sectors, that although they are parties that generally observe low density of productive fabric, some of the activities linked to the processing and use metals have considerable value. They are important for job creation and there are also experiences of university-business linkages.

Firstly, the good connection with the main metallurgical centers that supply these raw materials (particularly along National Route n° 9 and Provincial Route n° 24), make the northern suburbs (General San Martín, Malvinas Argentinas, San Fernando, San Isidro, San Miguel, Tigre, Tres de Febrero and Vicente López) the most important area in metalworking production. By 2011, it comprised approximately one in every four industrial premises and only the production of common metals and metal products represented one in every five jobs in the region (CERE - UNSAM, 2013).

Secondly, within the studies at the party level, we highlight the Industrial Census carried out in 2018 by the Municipality of Malvinas Argentinas and the University of General Sarmiento in the party. From the results we can infer that of the 280 companies surveyed, 17.85% directly refers to the production of metal goods, equipment and machinery; and 11% to activities that partially include the metalworking sector, such as automotive and auto parts,

[4] Measurement by the Instituto del Conurbano of the National University of General Sarmiento that is calculated by dividing the number of people with said attribute by the surface of the match. Available in:
https://www.arcgis.com/apps/View/index.html?appid=bf5d35c9dfd644a5b4feb3b2ae87532c&extent=-61.0762,-35.5909,-55.8027,-33.3977

and construction. Likewise, metalworking directly generates 9.16% jobs; and indirectly, 14.89%.

For its part, we also identify the work of the University of José C. Paz with companies in the area, such as the one that recovers and updates a survey carried out by the Secretariat of Industry and Employment Promotion (SIPEM) of the Municipality of José C. Paz. In this document, the industrial component was studied in 430 economic units of the party, of which 27 are identified as “industrial companies” (due to the intensive and complex use of technology and/or machinery in the production process and because they employ more than five people) (Goren et. al., 2019). Of this subgroup of 27 industrial companies, 43% are linked to the metalworking sector.

Finally, we highlight a recent work from the Sectorial and Territorial Development Laboratory of the National University of La Plata, where the productive chains are identified by municipality, for the entire province of Buenos Aires based on 2016/2021 data (Lódola and Pitetti , 2023). We found that in José C. Paz the services sector is the majority, with a municipal gross added value (GVA) contribution of 55%. The manufacturing industry contributes in second place with 36.8%, however, the productive chain that contributes the most within that sector is the automotive and auto parts industry (7.2% of the municipal GVA). In the case of San Miguel, a similar composition is observed, since 63% of the municipal GVA corresponds to services while 29.3% corresponds to the manufacturing industry (and within this, automotive and auto parts activity is the majority productive chain. , providing a municipal GVA of 6%). In other words, although these are parties with a low level of industrialization, the automotive and auto parts chain (closely linked to metalworking) has a predominant role for the local productive structure. In the case of Malvinas Argentinas, despite its industrial tradition, the greater proximity to the industrial nodes and containing the Promotion Triangle; The updated data show similar values to the other two parties: the chains that make up the services category are the ones that present the highest contribution of GVA (55.8%), while those associated with the manufacturing industry barely reach 37.9% (where the automotive and auto parts chain leads with 9.2% of the municipal GVA).

3. Identification of the metal-mechanical framework

A first approach based on own surveys on the activities linked to the metalworking sector in the area, allows us to verify the presence that it has in the northwest of the GBA and understand some of its characteristics. At the moment, 119 economic actors associated with the sector have been identified; of which 87 are companies that integrate different instances in the metal production chain and are located: 32.2% in José C. Paz, 43.7% in Malvinas Argentinas and 18.4% in San Miguel. Additionally, 5.7% of companies in the sector

were identified in the Moreno industrial parks, which could have dialogue with the productive chain to be studied due to their connection with PR 24. The rest of the economic actors correspond to profiles of related trades (welders, blacksmiths, metal carpenters) who offer their services independently to direct consumers, having identified a total of 32.

In an initial description of the activities they carry out, we initially highlight 2 companies that carry out metallurgical processes of metal casting. The companies dedicated to the manufacturing of goods and supplies are majority (44.8%) and then, the machinery (13.8%). Within this group we identified a varied composition of companies with different levels of complexity, size and scale: from the manufacture of bolts, screws and nails; cables; spectacle frames; technological metal chests, safes and containers for servers; cabins for cars and bodies; dough mixers and bakery ovens; safety valves for CNG and hydraulics; machinery for the metalworking industry; arrays; minibars and refrigerators; sterilizers for medicinal use and thermoses, among other products and machinery.

The productive network is also extremely heterogeneous, since it includes everything from small workshops, family businesses with more than 30 years of experience in the field (many of these managed by second or third generations), to large companies such as Lumilagro and subsidiaries of large multinationals, such as Visteon, Cembrass, Ferrosider Parts S.A (from the RB Group). This constitutes the basis of what Piore & Sabel (1994) recognize as flexible specialization, a social fabric that offers a variety of forms and production ties.

We observed a certain association with the automotive industry, and in fact we were able to verify that 26% of the companies carry out activities or produce goods in direct coordination with it (although not necessarily linked to the manufacturing process). We understand that this is an expected feature of the territory, given the strong presence of automotive companies in the neighboring town of Gral. Pacheco and surrounding areas.

Finally, we also recognize a category of Mechanical Workshop without specification, which comprises 24.1% of the companies and refers to those companies dedicated to mechanized, turning and rectification services, without specifying a particular destination.

The survey has focused especially on those economic units involved in production, however we were also able to verify the existence of other actors that make up the metal buying and selling circuit, as well as in the collection of metal waste. In total, they currently represent 13.8% of the cases, but in future research it is planned to continue with their identification, since they play a strategic role in thinking about instances of productive linkage with social integration (Table 1).

Table 1

Metalworking companies surveyed in the northwest region of the GBA, according to type of activity carried out. José C. Paz, Malvinas Argentinas and San Miguel, 2022.

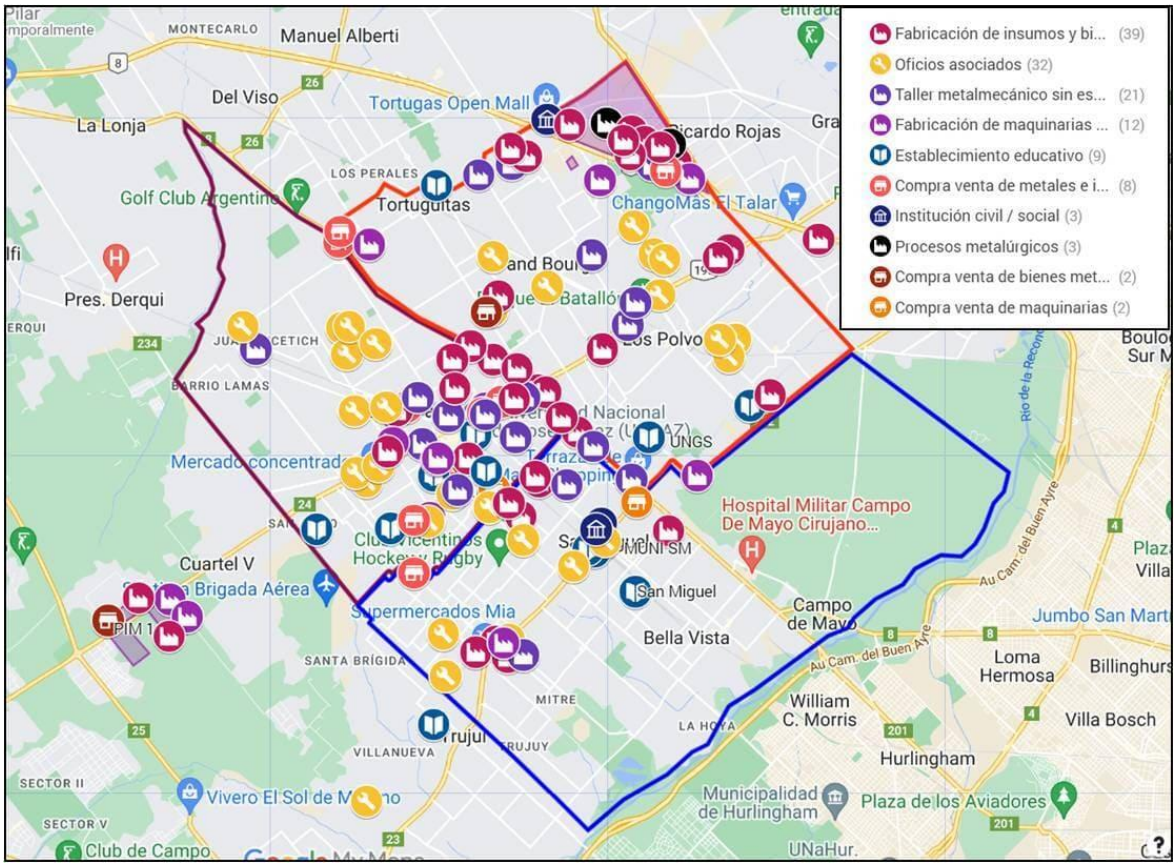
ACTIVIDAD	EMPRESAS	%
Metallurgical processes (melting)	3	3,4
Manufacture of supplies and metal goods	39	44,8
Manufacturing of metal machinery	12	13,8
Metalworking workshop without specification	21	24,1
Purchase and sale of metal goods	2	2,3
Purchase and sale of machinery	2	2,3
Purchase and sale of metals and supplies	8	9,2
TOTAL	87	100

Source. Own preparation.

The georeferencing of economic actors (Figure 3) allows us to identify the concentration patterns of the sector, articulated to the steel production nodes through national routes n° 8 and n° 9. Particularly at the intersection of both routes, in the Area of Promotion El Triángulo, is where we find companies dedicated to metallurgical foundry processes. Around this center-periphery axis, as well as the one formed by the provincial Route N°8, is where the metal machinery factories are mostly located (between Malvinas Argentinas and José C. Paz); while the companies dedicated to the manufacture of goods and supplies seem to be more in dialogue with the internal circulation axes of the area (in a north-south direction) through provincial routes n° 23 and n° 24. For their part, the jobs related to the metalworking sector seem to be distributed in the urban fabric of the area without a specific hierarchy. The railway roads do not determine the location patterns of companies, as we could see with the main routes and highways that support automotive transport. Following the categorization of actors of Arocena (1995), it remains to investigate the presence and actions of the chambers and other actors of the union and business sector, identifying at the moment the Association of Mining, Metallurgical and Metalworking Supervisors (ASIMRA), the Metallurgical Workers Union - San Miguel section and the Business Chamber of the Malvinas Argentinas Industrial Park (CEPIMA).

Figure 3

Location of economic actors in the metalworking sector. Parties of José C. Paz, San Miguel and Malvinas Argentinas. 2023



Source. Own preparation.

4. A look inside metalworking SMEs

Here we present some preliminary impressions and reflections derived from ongoing field work, started in 2022 and consisting of visits to metal-mechanical companies, observation and in-depth interviews with the owners/responsible. With this section we try to attend to the cultural and idiosyncratic dimensions around work and specific knowledge that, as we maintained in the theoretical framework, represent a fundamental element for local development. The companies analyzed below work in: manufacturing and maintenance of equipment for the baking sector; manufacturing of truck trailers; production of matrices and components for cryogenics and, finally, a metallurgical company dedicated to the manufacture of parts for the automotive industry.

Of the four cases surveyed so far, we observe that they all present similarities in their origins and trajectories in the area. They are family businesses established under the management of a family member, and where continuity occurred within the framework of a

generational change in which management and work spaces were maintained, even expanding. A characteristic feature present in all the stories is the appreciation of *in situ* learning, as an inheritance of knowledge and expertise. Although in most cases the current managers have university or tertiary studies related to the sector, they recognize the importance of the family legacy. As Oscar[5] explains:

> Aquí presentamos algunas impresiones y reflexiones preliminares que se derivan de un trabajo de campo en curso, iniciado en 2022 y que consiste en la visita a empresas metalmecánicas, observación y entrevista en profundidad a los dueños/ responsables. Con este apartado procuramos atender a las dimensiones culturales e idiosincráticas en torno al trabajo y los saberes específicos que, como sostuvimos en el marco teórico, representan un elemento fundamental para el desarrollo local (Oscar, personal communication, 09/06/23).

This way of conceiving learning also affects the decisions when deciding to hire new workers. Those attitudinal aspects are prioritized, considering that the specific and technical knowledge applied to the production process is later acquired with the practice itself. They highlight their own work experience in the field and the transmission of techniques interpersonally in the workplace. This complex situation, although it constitutes an asset for collective learning, also represents an obstacle to technological innovation and conditions the possibility of making production processes more complex that increase added value.

Another element present and reiterated in the review of the origins and trajectories of the companies are the stories that intersect particular political and economic contexts in the future of the country (economic crises, hyperinflation, devaluations, political measures with restrictions) and history itself: opportunities, responses, strategic decisions to alleviate or take advantage of an opportunity. These experiences configure a flexible work logic that characterizes SMEs. For example, Oscar said that he began doing machinery repair and maintenance. Then, at the end of the nineties, the context of the economic crisis allowed them to acquire used machines (at auction or at very low prices) that they repaired and sold. By 2003, when the national economy improved and they noticed that people did not want used or repaired machines, they began to produce new machinery. For his part, Sebastián, responsible for another of the factories, also summarizes a similar trajectory with the

[5] The names of the partners and managers of the companies are fictitious.

expression: “We have grown and we had to shrink, you saw: growth, crisis, growth, crisis…” (Sebastián, personal communication, 05/10/ 22).

Another aspect that we are interested in addressing is that linked to the organization of production processes, the designation of functions and management of personnel. We did not find a common form in the four cases, there being structured schemes with defined functions and hierarchies, as well as flexible logic with rotating positions. Of course, the differences respond to the type of activity and complexity, whether they have standardized production or it is project-based, and the scale. In cases with several people responsible (siblings in association), the tasks are usually delimited in terms of powers and scope. Although it constitutes a valid organizational strategy and is widely used in companies, in the cases of family businesses it also has the purpose of restricting joint decision-making instances. As Sergio explains, in his company dedicated to the manufacture of domes and truck boxes: “I am in the assembly. My brother gives me the merchandise and I make it for him. Family business, imagine... With all the complications of a family business. We get along very well, eh, but it's not easy." (Sergio, personal communication, 09/06/23)

The managers interviewed work alongside the employees, while planning and supervising the activities. In cases where a design and preparation of plans is previously required, they are also the ones who carry it out (sometimes assisted by other workers). Finally, all the cases coincide in being jobs composed exclusively of a male workforce, while the presence of women is only due to the fact that they are family members and their roles are reduced to administrative and accounting tasks.

With respect to the territorial registration that these companies maintain and their relationship with the productive chain, we observe that, in terms of market and commercialization, they operate mainly in the area of their geographical location, that is, the scope of their sales is limited to the northern and western area of the Buenos Aires suburbs. Most usually have a large client that provides a certain regularity to the workload, and then a traveling clientele that complements and strengthens the production dynamic. As they are all companies with a history of more than 20 years, they have recognition in the market that guarantees sales and do not plan strategies to open new markets. For example, the company specialized in cryogenics has as its main client the industrial gases engineering company Linde, an international economic group that has an Argentine subsidiary in the Tigre District. Likewise, the company dedicated to the manufacture of parts for the automotive industry has Toyota outsourced companies as its main clients.

The acquisition of raw materials also responds to the local circuit, to a greater extent. As we pointed out at the beginning, proximity to the main steel plants conditions the market. In practice, they buy the steel from a wholesaler who distributes the monopolistic production

carried out by Siderca and Tenaris. Although they do not produce serially, it is usually a common practice to stock up on raw materials, more for financial reasons - to be covered against possible increases (remember that steel has an international price) - than for productive reasons.

On the other hand, companies do not maintain stable links with the municipal public sector or with other public institutions in the region. One of the businessmen participates in the SME Forum, formed in 2017 at the initiative of UNPAZ; another commented having been a member of the San Miguel Chamber of Commerce and Industry, but they do not give much importance to the impact that such participation has on the development of the company.

They are aware of several of the programs promoted by the Ministry of Labor, Employment and Social Security of the Nation through the municipal offices, they are even aware of the tax credit initiatives and help in hiring new jobs (Program Te Sumo) and in some cases they access them, but then they point out that the benefit is not significant.

Finally, a last aspect that we are interested in addressing, and that we consider constitutes a core part of any analysis of the action of the subjects, refers to the reflection on the meaning that they give to work (Touraine, 1987). Our work problematized the meaning of action from the vision of the SME entrepreneur, seeking to reflect in a reflective manner the perspective proposed by those in charge of managing the productive units. The discourse of entrepreneurs in terms of how they conceive their role translates into the recognition of their responsibility as organizers of the work process. The work is presented to them from a double consideration, which contemplates their own and that of others. The justification they try as a key to understanding the development, evolution and permanence of their companies in the market is linked to the experience they have, the effort they dedicate and persistence in the task. As Raul argues:

> …I will be an entrepreneur the day we can organize ourselves, that I don't have to come here, that I don't have to work. The day we say that the business can be managed on its own without me having to be here every day. The day you have sales teams assembled, purchasing and administration teams, a workshop manager, a technical service manager... There you can say that I have a company and I come every other day, from time to time. If you can't organize yourself that way, you're not a real businessman (Raúl, personal communication, 03/28/23)

They work daily alongside their employees, they recognize the importance of the effort they make together, but they do not recognize themselves as entrepreneurs within the

imaginary in which they place their role. For them, being an entrepreneur means organizing production and work in such a way that they do not have to be in the factory every day, not having to work so much.

CONCLUSIONS

With the purpose of approaching the study of the metal-mechanical sector in the northwest of the GBA, in this article we try to advance, still in an exploratory manner and recovering the focus of local economic development, in the recognition of the network of economic actors that participate or are challenged for this activity.

At the same time, our contributions were aimed at incorporating alternative and complementary views to the economic development efforts supported by provincial and national policy, in two senses. On the one hand, emphasizing a territorial dimension that analyzes economic units within the geographical context in which they develop their activities, establish relationships and generate commercial exchanges. On the other hand, considering that geographical approaches to local economic development must also address companies as economic actors, we advance by recognizing not only their rationalities but also their subjectivity and the meanings of work that are built in them. We postulate that this is an aspect less considered in local development studies and that it is nevertheless important to understand the acceptance or rejection of businessmen to public initiatives. In accordance with these proposals, we structure the article based on these two dimensions, with different approaches and methodologies.

At first, with a macro-structural view, we set out to know some of the characteristics of the metalworking industry and, particularly, evaluate the weight it has within the study area. The review of secondary sources based on official reports, statistical data and background information allowed us to recognize a certain strategic relevance of the territory in question, which in turn integrates the productive corridor of the steel industry – the main source of raw materials for metalworking. Advancing in this characterization, the first approaches to the productive fabric - based on the survey of related economic units - allowed us to warn about the diversity of companies of different size and function, which are complementary to each other and that lay the foundations for the design of strategies. to promote metal-mechanical productive linkages on the basis of flexible specialization (Piore and Sabel, 1994). In fact, they were registered from raw materials traders, manufacturers of goods or machinery, manufacturers of inputs, companies that perform maintenance, and even a company dedicated to the treatment of metal waste.

It remains pending for future research work to advance in studies that deepen and complement the map of actors, completing the description of the business community and

identifying those related to the system of political-administrative action and socio-territorial action. Also, those non local, such as cooperation networks and policies, programs or institutional actions. We consider that the information and knowledge that the different actors have about the resources and assets of the territory constitutes a central aspect to strengthen the productive development of the sector; and that the role of universities and sectorial institutions (such as chambers, unions and forums) is fundamental.

We also observed from our surveys that 26% of the identified companies carry out activities linked to the automotive world, some integrated into the production chain and others in a secondary manner. For example, a company makes a component for the windshield of Toyota vehicles; another international company develops hoses; while a large number manufacture packaging boxes for trucks. The possibilities of productive linkage with the automotive industry opens an extremely interesting line of research that we will try to explore in successive works, recognizing its importance in generating jobs, due to the scale of production. However, we observe based on previous studies that it is a globally structured sector. This integrates global suppliers who follow an import logic and maintain globally agreed supply relationships; which limits the development of local suppliers (ECLAC, 2017).

In a second moment we present a qualitative methodology of visits to industrial establishments and in-depth interviews, from which we investigate the trajectory of the entrepreneurs, their work organization, labor relations and others subjective aspects of their worldview and meanings of work. We consider that this level of depth in the understanding of the actors that make up the productive network, and particularly, of the SME entrepreneurs, provides a novel character to the research. As we pointed out previously, because the recognition of the subjective dimensions that guide these actors – their *business ethos* – complements the studies of economic geography on productive chains. This constitutes a relevant aspect to consider in the design and implementation of public policies that are aimed at them and need to convene them.

The cases analyzed illustrate aspects of its history and its current dynamics of operation, both internally of the organization itself and in dialogue with its environment. We identify companies with a family history, created by previous generations and with persistence in the market that is the result, according to testimonies, of effort, dedication and persistence in the task. The discourse of entrepreneurs in terms of how they conceive their role is based on the recognition of their responsibility as organizers of the work process and, at the same time, as its doers. That *business ethos* of responsibility in constant, present and persevering work that is established as a kind of command bases its history and is shown to be the key to success. In a hostile, uninspiring environment, with specific and changing historical circumstances, the attributes that, together with effort and tenacity, guarantee

success are adaptive logic and strategic decision making. This sense of work then configures a distant and individualistic *business ethos*, which must be convinced in order to promote new collective experiences that promote local development.

REFERENCES

Alburquerque, F. and Pérez Rozzi, S. (2013). Territorial development: approach, content and policies. *Ibero-American Journal of Local Government–RIGL* (4), 1-24. https://revista.cigob.net/4-mayo-2013/articulos/el-desarrollo-territorial-enfoque-contenido-y-politicas/

Albuquerque, F. (1996). Two facets of economic and local development: productive development and policies against poverty. *Working documents of the Latin American and Caribbean Institute of Economic and Social Planning*. ECLAC.

Albuquerque, F. (1999). Local/regional economic development and business development in Latin America. *City and territory: Territorial studies*, 122, 821-834. https://recyt.fecyt.es/index.php/CyTET/article/view/85626/62483

Arocena, J. (1995). *Local Development. A Contemporary Challenge*. CLAEH, Catholic University of Uruguay.

Arroyo, D. (2007). *Development in the axis of social policy*. Ministry of social development of Buenos Aires.

Boisier, S. (2001). (Local) Development: What are we talking about? In Madoery and Vázquez Barquero (eds.) *Global transformations, institutions and local development policies*. Homo Sapiens Publishing House.

Bozzano, H. (2007). Buenos Aires from its origins. Territorial transformations and productive mutations in Borello (comp). *Approaches to the productive world of the Metropolitan Region of Buenos Aires*. General Sarmiento National University

Borello, J., Fritzsche, F., & Barnes, C. (2007). The industry of the Metropolitan Region of Buenos Aires. Reflections on recent bibliography, with emphasis on studies on SMEs in Borello (Coord.) *Approaches to the productive world of the Metropolitan Region of Buenos Aires* (pp. 83-116). General Sarmiento National Univ.

ECLAC (2017). *Territory, infrastructure and economy in Argentina. Restrictions on the growth of different production complexes*. United Nations

Center for Regional Economy (CERE) – National University of San Martín (2013). Survey of Industrial SMEs in the Northern Conurbano. Year 2012. *Regional economy document* series No. 17. http://www.unsam.edu.ar/escuelas/economia/economia_regional/Documento%2017%20Relevamiento%20PyME%20Industriales.pdf

Professional Council of Economic Sciences of the Province of Buenos Aires (2013). Steel production. An industry with weight. *Professional Reality Magazine* No. 72, 24-27. https://www.cpba.com.ar/old/Actualidad/Noticias_Consejo/2014-01-31_Industrias_bonaerenses.pdf

Coraggio, J.L. (2004). People or capital: local development and labor economy. ABYA YALA.

Delgado, A. O. (2010). Local development in its labyrinth. *Future Vision*, 7(13). https://revistacientifica.fce.unam.edu.ar/index.php/visiondefuturo/article/view/570

Dzembrowski, N., Andrieu, J. and Fernández, A. (2022). Management of logistics activities international in the southern metropolitan area of Buenos Aires, the case of Puerto La Plata. *First Latin American meeting of investigative experiences COMPA Network: a Latin American perspective*. University Institution Colegio Mayor de Antioquia. https://www.colmayor.edu.co/wp-content/uploads/2022/11/PRIMER-ENCUENTRO-COMPA-3.pdf

Dzembrowski, N., Goicoechea, M. E. and Barú, A. (2023). Characterization of socio-labor and training profiles in job seekers of José C. Paz, *IV Conference on Labor Studies - Pre-ASET*, UNPAZ, José C. Paz.

Dzembrowski, N. and Goicoechea, M. E (2022). Organizational logics of work in SMEs belonging to the metal-mechanical sector of the northwest region of Greater Buenos Aires. *III Conference on Democracy and Inequalities*, UNPAZ, José C. Paz.

Goren, N.; Dzembrowski, N.; Alvarez Newman, D.; Ferrón, G. (2019). *Labor organizations of the social economy. The case of the Productive Pole of José C. Paz*. EDUNPAZ.

Jerez, P. (2019). A journey through the history of the Argentine steel sector. *Voices of Fenix* No. 76. https://vocesenelfenix.economicas.uba.ar/un-recorrido-por-la-historia-del-sector-siderurgico-argentino/

Katz, J. (1986). Development and crisis of Latin American technological capacity. The case of the metalworking industry. *Studies on technological development*. ECLAC.

Lodola, A. and Pitetti, D. (2023). Productive Chains Province of Buenos Aires. Municipal Disaggregation 2016/2021. *Laboratory Document No. 15.* Sectoral and Territorial Development Laboratory, Faculty of Economic Sciences, University of Buenos Aires.

Madoery, O. (2022). The spatial configuration of inequality. *Lavboratorio Magazine*, 32 (1), 12-32. https://publicaciones.sociales.uba.ar/index.php/lavboratorio/article/view/8052

Madoery, O. (2008). *Another development. The change from cities and regions*. UNSAM Edit.

Marsanasco, A. (2013). Enlightening productive clusters from philosophy. *Future vision*. 17(2), 1-21.

http://revistacientifica.fce.unam.edu.ar/index.php?option=com_content&view=article&id=335&Itemid=72

Méndez, R. (2002). Innovation and territorial development: some recent theoretical debates. *EURE*, 28(84), 63-83. https://www.scielo.cl/scielo.php?script=sci_arttext&pid=S0250-71612002008400004

Argentine Ministry of Economy, Secretariat of Economic Policy (2021). VALUE *CHAIN REPORTS. Sectoral file: Steel industry*. YEAR 6 - N° 58. https://www.argentina.gob.ar/sites/default/files/2021.11.24_sectorial_-_siderurgia_version_web.pdf

Ministry of Infrastructure and Public Services, Government of the Province of Buenos Aires (2020). *Strategic Infrastructure Plan 2020-2024*.

Piore, M. J. and Sabel, Ch. (1994). *The second industrial breakup*. Madrid: Alianza Editorial.

Quetglas, F. (2008). *What is local development? Keys Collection for everyone*. Intellectual capital.

Secretariat of Equity and Employment Promotion- Government of the province of Córdoba (2017). *Module 9- Metalworking*. Distance education program. https://educacionadistanciacordoba.wordpress.com/modulos-y-curriculo/

Secretariat of Economic Policy, Undersecretary of Regional and Sectoral Programming (2021). *Automotive and Auto Parts sector file*. Buenos Aires: Argentine Ministry of Economy. https://www.argentina.gob.ar/sites/default/files/2021.07.08_version_web_fichas_sectoriales_-_automotriz_y_autopartes.pdf

Simone, V. and Bolado, M. (2009). *The approach to the metalworking, chemical and plastic companies of Avellaneda based on the characteristics of their productive organization and the insertion of engineers. Working document No. 3*. National Technological University – Avellaneda Regional Faculty. https://www.fra.utn.edu.ar/images/temporales/documento_trabajo_web_3.pdf

Sosa González, M., Riquelme Rivero, Y., Diez Valladares, O. R. (2020). *Considerations on local development*. University and Society Magazine, 12(4), 309-315. http://scielo.sld.cu/scielo.php?pid=S2218362020200004003 09&script=sci_arttext&tlng=pt

Rofman A. (2003). The social actors of local development in the Metropolitan Area of Buenos Aires. *IV ISTR-LAC Regional Conference*, San José de Costa Rica, October 8 to 10.

Touraine, A. (1987). The return of the actor. EUDEBA.

Vázquez Barquero, A. and Rodríguez Cohard, J. C. (2015). Local development policy: the challenges of late-developing territories. *City and Territory Territorial Studies*, 47(186), 625–638. https://recyt.fecyt.es/index.php/CyTET/article/view/76436

BIBLIOGRAPHICAL ABSTRACT

Please refer to articles Spanish Biographical abstract.