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# Economic Impact of SMEs in the Desert of Arica-Chile: an Early Evaluation of the Business Assistance Provided by Sercotec's Arica Business Center Program

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**Abstract---***The article analyzes under a case study methodology the first economic impact results of the Small Business Development Center program in Arica, a program financed by the Technical Cooperation Service (SERCOTEC). The preliminary conclusion of the article suggests that the first economic impact results show that the 833 enterprises assisted by the program generate more sales opportunities, jobs, and investments, creating positive income and fiscal returns, despite the enormous difficulties presented by the current pandemic facing the country and especially the region. From a public policy standpoint, the CDN's contribution to the regional economy helps create new employment opportunities in growing MSMEs. For their part, maturing companies contribute to job retention thanks to the advisory processes that help reorient their businesses, and the work with entrepreneurs contributes to the generation of new businesses that strengthen the regional economy.*

**Keywords---***agricultural business, economic growth, public policies, small enterprises, SERCOTEC.*

## Introduction

Micro, small and medium-sized enterprises are key players in economic and social development of Chile, because they contribute to 53% of jobs and represent 98.7% of the total of formal firms nationwide (SII, 2019). Production of the MSME segment is mainly linked to the domestic market, so a representative portion of the population and national economy depend on their business.

The national assessment shows that micro and small enterprises have various limitations that affect industrial performance, including: i) less access to financing; ii) less resources to invest in technology and human resources; iii) limited capacities of administrative and management; iv) less bargaining power; v) difficulties in organizing large-scale projects; vi) problems and to expand its value proposition into new markets. These barriers retract entrepreneurs when embarking on the creation of new businesses or established cause companies to operate with low production efficiency. However, numerous studies emphasize a positive relationship between good management and good economic performance in enterprises. In this context, Bloom & Van Reenen (2007) suggest from various scientific approaches and case studies that best management practices are strongly associated with productivity, profitability, sales growth and survival rates of the companies. From a government perspective, delivering micro and small tools to enterprises and improve management, innovation and competitiveness, has been a public policy objective in the last three are decades, existing agencies specialized in this task as SERCOTEC, an institution

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\* Arica Business Development Center, a program financed by the Technical Cooperation Service (SERCOTEC) and operated by the University of Tarapacá (UTA). Article developed within the framework of the PhD Program in Law and Economic Sciences of the Camilo José Cela University - Spain. Email: rodrigo.barra@centrossercotec.cl / www.centroschile.cl / www.uta.cl

dedicated 65 years to the supporting and strengthening small businesses in the country (Tarutė & Gatautis, 2014; González-Loureiro & Pita-Castelo, 2012).

This institutional framework urges the Government of Chile to move to a second phase of public support services aimed at obtaining a greater impact on growth and productivity of small businesses. Thus, as established in the Agenda Productivity, Innovation and Growth (2014-2018), from 2015, the implementation of the network of Centers Business Development began with national rollout, whose objective is to support through technical support and long-term MSMEs ventures established and the country. Indeed, the new public policy, trying to improve what has been done until then and begins to emerge a partnership scheme based on building better public institutions in government (SERCOTEC, 2018).

The initiative launched by the Ministry of Economy, Development and Tourism, is executed from its origins by SERCOTEC, institution committed within 4 years, the implementation of the Centers Business Development, based in the model Small Business Development Centers of the United States (SBDC, 2019). Since its inception in Chile, the Business Development Centers, have positioned itself as the main source of technical assistance for small businesses, attending annually more than 20 thousand beneficiaries. After the first impact assessment of the program, applied to the first 27 Centers Business Development, confirmed that the advice given has a positive effect, and economically important in terms of creation and formalization of jobs, increased sales and Leverage investment resources. The research also showed a qualitative level that centers not only help create more formal jobs, but also affect aspects that help improve the quality of the employment relationship between employers and employees. Likewise, supported by the Centers have contributed to improving self-esteem, entrepreneurial skills and leadership abilities (Public Systems Center at the University of Chile, 2017)

Concluded the study, it emerges as an opportunity for the program, evaluate and systematically measure the impact of interventions of each operator. Unlike other business support initiatives of the country, the Centers administer the "Neoserra" platform, software used in the United States and Latin America and the Caribbean who adapted the SBDC model to report counseling sessions long term impacts assisted obtained by each beneficiary. This research analyzes the main economic impact results from a sample of enterprises and new businesses that received technical assistance in the Business Development Center of Arica. To test empirically the impacts obtained, the story of 833 clients assisted between 2015 to 2019 was examined. From the information available at the Neoserra software was feasible to develop a database of longitudinal character, which accounts for the increase in sales, job creation and obtained funding. In this regard, the document examines transversely efficiency program, considering variables gender, ethnicity, size and economic sector (Radas & Božić, 2009; Pimenova & Van Der Vorst, 2004). Finally, the document is organized as follows: The first section, presents the methodology and database used. The second section examines the literature review. The third section provides a brief description of the program Business Development Centers in Chile. The fourth section examines the business impacts obtained by beneficiaries assisted in downtown Arica. The fifth section analyzes the cost-effectiveness of the program and the last section relationship, presents the main findings of the study.

## Materials and Methods

The methodology used in this research combines qualitative and quantitative techniques. First, the data collection included reviewing publications, technical reports, official budgets, operating manuals and statistical yearbooks. To test empirically the impacts achieved by the program in the Region of Arica and Parinacota, the Neoserra software, which allowed to examine the history of 833 clients assisted between 2015-2019 was used. From the information available, it was feasible to develop a database of longitudinal character, which represents the dynamics and growth of clients assisted, and examines the relationship between the key performance indicators of the program, with other variables that literature suggests to treatment, including efficiency by gender, ethnicity, size and economic sector (Zeng et al., 2011). Of the total number of companies analyzed, they examined in greater depth economic impact surveys 383. The application of the measuring instrument corresponds to the procedure established by the Sercotec Management Centers and is based on a survey of similar features used by the SBDC program in the United States.

The increase in sales was based on the review of tax folders (Form 29 or monthly VAT return), downloaded from the platform the Internal Revenue Service and recorded in the respective economic impact surveys. Job creation is supported by reviewing employment contracts generated in each period and obtaining financing rested on the revision of the agreements concluded between the assisted clients and institutions of public and private financing. For additional information on the impacts on the growth of firms assisted, three case studies which identified unregistered on information available qualitative aspects were made. Much of this effort, focused on those clients who had higher rates of increase in average sales. In this regard, it is noted that firms, especially in the agricultural

segment, improve business performance from changes in business models, use of new technologies, leverage subsidies and access to new markets. This reading Appreciative and structural growth process to reaffirm the general conclusions of the study. Finally, to check the efficiency of the intervention of the Center Arica, a cost/benefit analysis, which is discussed in the last section of the document it was made.

## Literature Review

### *Business growth based on resources and capabilities*

There is a great discrepancy between the academic formal growth models developed by neoclassical economists and structuralists or evolutionists looks supported by a historical vision of growth processes (Nelson, 1982). In that sense, manuals neoclassical economics is observed that companies are often presented as a sort of "black box" that somehow combine certain amount of work with a certain amount of capital, following postulated by a model dominated by conventional theory of static equilibrium.

Undoubtedly, neoclassical economics gives us a starting point for understanding a number of factors affecting the economic growth of businesses, however, and since we are in a stage of rapid technological change, in which there are several possibilities to study paths, routines and capabilities that affect business demography, we find it somewhat limited adjust to a static modeling of the phenomena of growth. It is essential, therefore, to note that if environmental and business conditions are favorable, all the resources and capabilities of firms will gradually adapt to economic most innovative and competitive environments. Thus, affirming the idea, Edith Penrose (1959) in his book *"The Theory of the Growth of the Firm"* studied the causes of business growth and the factors that lead to limit its growth rate. In this regard, the author of exploring the relationship between company resources and development, noted that the signatures are an administrative organization composed of a set of resources, where growth thereof is determined by the resources you have and by a logical organizational or corporate culture and behavior.

To illustrate this point, Penrose identified that companies are endowed with certain resources, managed by entrepreneurs' managers provide both an incentive for expansion as a limit on the growth rate. From this perspective, the growth rate of a company is limited by knowledge, administrative efficiency and the collection of productive resources available. These resources are themselves a set of potential services that can be used with greater or lesser efficiency. Therefore, the size of the company is the total present value of resources used for productive purposes and efficiency that employs them. In the latter sense we have what we call corporate culture in the use thereof.

From this reflection, Penrose considered a business is an equation comprised of the administrative organization and collection of productive resources, for this reason, the production activities of the company are governed by the opportunities identified by the employer, and your search is an enterprising provision that requires intuition and creativity. Therefore, competition management of a company depends largely on the quality of business services available and the degree of organization and ability to generate revenue and maximize their competitive advantage in the market. Penrose (1959) also it argues that limits the growth of the company are set by the perceived demand by the employer and as the company grows in size, its composition "product-market" changes accordingly. At the same time, the availability of unused productive services, it becomes a challenge to innovate, an incentive for expansion and a source of competitive advantage.

### *Business growth from a perspective Inductive and Evolutionary*

Much of the theories that seek to identify sources of business growth has been sustained by inductive methods and case studies. However, over the last few decades many researchers are away from narrative methods to approach econometric and statistical techniques, using structural models for mainstreaming causal variables. The basic motivation behind this search was the scientific need to evaluate the statistical validity of the theories developed from casuistry observation of reality. In this regard, Tarziján (2019) notes that, despite the appeal of this momentum towards a statistical validation of the various theories, there is no consensus on the real progress on this front.

As for the variables business, we have identified certain factors that may be associated with high profitability and growth (such as the type of industry, systematic investment in innovation and technological change), but is still far from finding clear causalities or identify specific variables affecting these returns (Tarziján, 2019). Other authors like Bloom & Van Reenen (2007), to the conduct a comprehensive research program to systematically measure management practices in developed countries and developing countries, were able to explain the large differences in productivity between companies and countries - differences that do not they can easily be explained by other factors - are variations in management practices. In this regard, the findings of their research suggests that *"companies with*

*the best management practices tend to have a better performance in a wide range of dimensions are larger, more productive, grow in terms of size and productivity, as well as terms of survival".*

From an evolutionary perspective, [Richard Nelson \(1982\)](#) points out that research on the differences between companies and the implications for survival and business growth have put an excessive emphasis on formal modeling and quantitative analysis aside a better understanding of what is actually happening inside the firm. In consideration of the foregoing, Nelson argues that industrial heterogeneity necessarily leads to a wide range of businesses and circumstances, different customer groups and a variety of behavioral patterns. While there are probably overlapping markets, different firms they are located in different places, and have a certain reputation and track record. Some of these companies are under new management or have been newly created. Others differ in the earnings and the total factor productivity (TFP).

Due to the limitations of structural models, Richard Nelson also believes that, from a biological perspective, changing the dominant phenotypes from one equilibrium to another often can be attributed to changes in the institutional framework in which a certain community operates and as such changes - outside the company - are metabolised within a given business cast. In this regard, industry competition, a change in customer needs or a change in the conditions of supply of inputs can have a significant effect on the viability and growth of enterprises and interpreted differently by different firms even among close competitors.

Another fundamental idea of Nelson is that in an industrial environment, some companies may have high profit selling in a particular market, where demand is relatively inelastic, and expansion of activities will not necessarily be as profitable in the future should diversify other work areas. At the same time, the variety and turbulence of an industry at any time be related to the relative importance of new participants and their characteristics. As these contrasts, signature and industrial structure "co-evolve" in response to economic, institutional, regulatory and technological changes. Following the above evolutionary conception of the firm it indicates that the forces motorize the entrepreneur growth are surprisingly complex and diverse, and business structures and behaviors, can be explained under a sectoral perspective, considering historical accounts that complement the explanation that emerges from the formal modeling patterns of productivity and business growth.

### *Business Development Services*

The term "Business Development Services" was coined in the 90s by the Committee of Donor Agencies for Small Enterprise Development ([DCED, 2001](#)), to replace the term "non-financial services". SDE institution defines as services that improve business performance, access to new markets and their ability to compete. The definition of "business development services" includes a wide range of support services that facilitate compliance with a number of functions, ranging from sales to finance, through the administrative management and technology management ([DCED, 2001](#)). In this context, different services meet business development business weaknesses and market failures, low diagnoses and accompanying methodologies that facilitate proper management business.

Furthermore, it appropriates to point out that the economic benefits of short term are not necessarily a reliable indicator of the performance of small businesses, for that reason, technical assistance and personalized support long-term help to improve the competitive position of businesses in the weather. Considering the above, the dominant paradigm of business development services, pays special attention to clearly establish the roles of facilitators and providers of BDS, in a way, to connect properly the public offering with business requirements, as explained in Figure 1.

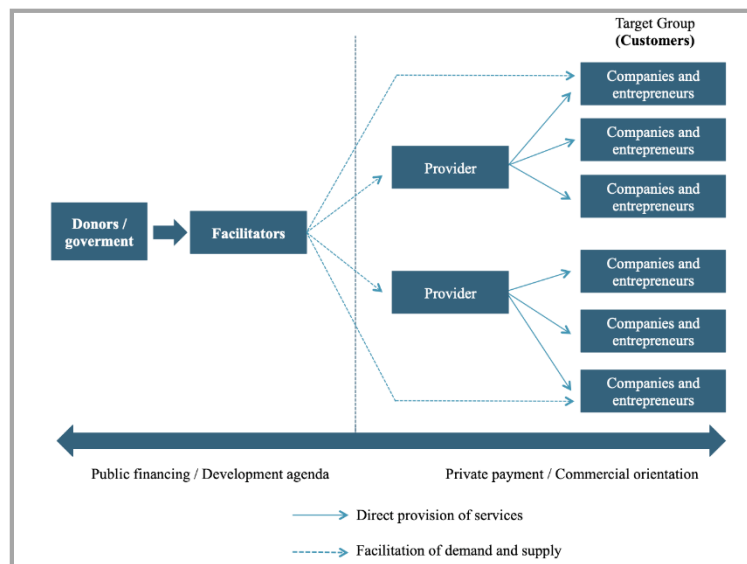


Figure 1. Facilitators and BDS providers  
Source: Prepared from Villarán, 2001.

### *Business Development Centers*

Several countries and donor agencies have committed over the last three decades support to stimulate small and medium-sized enterprises economic growth of the micro. In this context, the international literature in this field is very diverse, and the variety of approaches and case studies represent the background on which they have to work those responsible for the public sector to find solutions to the various challenges facing small business.

Most of the research believe that business development services are provided by Business Development Centers Small Business. In this regard, depending on the context or area of expertise we can find many programs with very similar characteristics between countries. From a conceptual perspective, Business Development Centers (CDE) are characterized as spaces free assistance tailored to small and medium-sized enterprises specific needs of micro and primarily funded by public institutions. Centers contribute to growth and corporate sustainability, under the rationale that a large segment of MSMEs lacks the resources and capabilities to adequately meet the challenges of the life cycle of the company. Also, it thinks that the partnership and cooperation with support networks are an important element in the performance of local economies and companies.

For the European Commission, the CDE are defined as *"those services generated by a public initiative, which aims to assist companies to enable them to successfully develop their business and can respond effectively to the challenges their physical, social and business environment them poses"* (CDE, 1997). For the Small Business Administration (SBA) Centers Small Business Development (SBDC) are *"Cooperative effort between the SBA, universities, the private sector and state and local governments for the benefit of small businesses. Its services include free business counseling and training costs low."*

The CDE are designed to improve access of MSMEs to all types of business support services in geographic areas with little or no service delivery. Centers initially called "non-financial services" are the most important instrument of public policy to support small businesses. The CDE provide services in more than one area, operating in several markets at once, and can do in various ways, although recent trends are oriented towards specialization (Villarán, 2001).

### *Business Development Centers of Sercotec*

Policies for encouraging and promoting micro and small enterprises have been developed primarily on the basis of public institutions dependent on different ministries and specialized agencies. In this regard, the contribution of the Department of Technical Cooperation (SERCOTEC) has been fundamental since 1952. The private corporation, under the Ministry of Economy, Development and Tourism was born thanks to a cooperative agreement technical

assistance which concurred Corporation promotion of Production (CORFO) and the Institute of Inter-American Affairs of the United States (SERCOTEC, 2018; Manual, 2007).

Since the nineties, the institution has a regular budget to support small businesses, currently standing subsidies and programs such as: venture capital, grows multisectorial improvement business and other public interest initiatives such as the program for strengthening gremial and cooperative, commercial districts and business training. From 2015, it launched the program Centers Business Development, an initiative that was born with the agreement between the governments of Chile and the United States in June 2014, in the promotion of entrepreneurship and of growth small companies. This committed technical advice, training and collaboration of the United States to implement the centers in Chile, modeled on Small Business Development Centers (SBDC).

The first center was opened in October 2015 and is currently operating a network of 51 centers, of which 32 are operated by institutions of higher education. In response to the order to implement this initiative, Sercotec modified its organizational structure, creating the Management Business Development Centers at the central level and regional level through the appointment of an executive promotion in each Regional Directorate. It is noteworthy that in the last 15 years the institution already had a stable budget to implement their programs, but no further growth. Centers changed this situation, with increased resources for programs in 2017 reached 32%. This evolution was the ultimate expression of the paradigm shift driven by management in the various programs, which helped pass the investment support provided by the institution to business advice, privileging the impact on the number of companies assisted.

### *Model Intervention Program*

The Business Development Centers are spaces where smaller companies and entrepreneurs receive technical, individually and no-cost counseling through expert advisers to strengthen entrepreneurial skills and ensure long-term economic impact and effective results. Centers absorb learning spaces support and guidance to businesses than in previous periods had arranged SERCOTEC to the same as other institutions such as the Chilean economic development agency CORFO, with resources from the central government and regional governments. In this sense, the implementation of the program was conducted incrementally since the second half of 2015, initially considering migration Chile Empreende centers of CORFO and the incorporation of new centers approved by public tender.

Centers have as a focus for intervention creating economic impact on companies assisted, primarily through increased sales and employment by measuring these business results over time. The centers encourage a model of work agreed with the entrepreneur or businessman, where this compromises their effort and perseverance in carrying out actions recommended in the framework of counseling. Thus, the mission of the Centers is to promote growth, productivity and innovation of smaller companies, accompanying them in their development challenges through expert advice to improve their management. The centers aim to be recognized as a benchmark for technical advice and management of high value for these companies, contributing to the viability and sustainability of these and their employees. Small businesses and entrepreneurs receive comprehensive assistance to the needs of each business. These particular needs are identified in an initial diagnosis that makes business consultant and businessman or businesswoman; From this diagnosis an individual plan of work agreed between the center and the advice is made.

Thus, the latter accesses a service offering advice and training of high value to suit your requirements, with emphasis on long-term support to ensure effective results, they are measured systematically. In addition, the Centers provide access to financial services, market research and links with the local productive ecosystem. To facilitate the latter, requiring operators to include applications in partnership with higher education institutions, business associations, municipalities and local governments. In this respect, at the end of 2018 the program was signing with more than 580 strategic partners at local level, where the participation of major universities in the country, associations, unions and banking institutions such as State Bank, BCI Banck and Hope Fund.

Support actions lie in delivering specialized technical assistance, personalized support and monitoring in their companies, and where appropriate, training to improve business management skills. Segment care centers are smaller companies, ideally of, small 1 small 2 small 3 micro segments 3 with sales go up to 600.01 UF 25,000 UF. They are also considered entrepreneurs without initiating activities. The three levels of care are as follows<sup>†</sup>:

- Level 1: entrepreneurs / as who want to start a new business or are in the early stages of implementation of an initiative without initiating activities to the Internal Revenue Service.
- Level 2: established companies that have a business operation and seeking opportunities or ways to improve it or make it grow, have a specific problem or need to be resolved and/or are going through a market crisis.

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<sup>†</sup>Customer segments, p. 4. Public Bidding Bases for operators Business Development Centers. Sercotec, 2017.

- Level 3: gazelle companies<sup>‡</sup> with high levels of growth compared to the average of its sector or its competitors, need assistance to properly manage their growth and unlock various "bottlenecks".

### *Operation Program*

The operation of the Centers is done through external operators, evaluated and selected by Sercotec by public tender. Operators must ensure their articulation in the territory under a triple helix approach (government-university-industry) in order to expand and strengthen the operation and services of the Center and contribute to the sustainability of the model. Operators comply with the regulations and regulations established by Sercotec, which ensures the same level of care anywhere in the country, taking steps to make schools inclusive and accessible spaces<sup>§</sup> small business owners and entrepreneurs, with an emphasis on access for women, and encouraging joint in the territory with associates.

Table 2  
Program operators

Operator Type	Number of Centers	% Share
Higher education institutions (EES)	32	63%
foundations	1	2%
corporations	12	23%
consulting firms	5	10%
Business organizations	1	2%
	51	100%

Source: Sercotec, 2017

### *Main results of the program nationwide*

With 51 centers and 98 satellite offices, SERCOTEC program has achieved coverage of 98% of the national territory, advising more than 52 thousand entrepreneurs and smaller companies since its inception. The cumulative results on December 31, 2018, are very positive, since more than 11 thousand companies reported increased sales totaling Approximate MM \$84,346, have generated more than 6,800 new formal jobs and have trained more than 240,000 entrepreneurs and businesses (see table No. 3). In addition, 3,400 companies received private investments for about \$21.522 MM.

Table 3  
Evolution of the main results of the program Centers

Indicator	2016	2017	2018	Accumulated
Total number of clients counseled	9.844	22.335	20.749	52.928
Number of companies with increased sales	1.235	4.898	5.379	11.512
total increase in sales (CLP\$)	MM \$ 8.728	MM \$ 36.631	MM \$ 38.987	MM \$ 84.346
Number of companies with formal jobs	464	1,731	926	3,121
Number of new formal jobs generated in the measurement period	1.015	3.180	2.649	6.844

Source: own elaboration from Comprehensive Management of Sercotec.

Table No. 4 can be seen that the cost-benefit ratio of the period 2017 indicates that for every \$1 spent on the program weight was achieved return \$2.2 weights. Definitely, effective installation of this new public policy has succeeded in transforming the model support to improve the management and growth of small businesses, especially in economic sectors such as services, trade, manufacturing and agriculture.

<sup>‡</sup>Gazelles are the subset of high-growth companies, under five years with an average annual growth above 20%. Eurostat - OECD, 2007.

<sup>§</sup>Offer of the Center. Bases Operators Public Tender for Business Development Centers. Sercotec, 2017.

Table 4  
Cost/benefit (2017)

Total, incremental tax revenues (VAT)	MM \$ 27,909 (CLP\$)
Operating cost of CDN	MM \$ 12,446 (CLP\$)
Cost benefit relation	1 / 2.2

Source: own elaboration from Sercotec, 2017.

*Case Study Center Business Development of Arica*

*General economic context of the territory*

Arica is the northernmost region of the country. It bordered to the north with Peru, Bolivia to the east, to the west by the Pacific Ocean and to the south with the region of Tarapacá and is located at a distance of approximately 2,000 kilometers from the capital of Chile. The region has an area of 16,873.30 square kilometers, equivalent to 2.2% of the national territory, according to the Census 2017 the population reaches 226,068 inhabitants (INE, 2018). The economic history of Arica (1950-1989) is a relevant case of economic development in Chile, as the process most significant industrial, social and political development began with the creation of the "Free Port" in 1953, an instrument that sought to reverse the situation of economic backwardness living Arica through policies that favored activities except import and port development. The successful performance of this strategy helped the installation of automotive and electronic plants, they created an industrial atmosphere that facilitated population growth and urban sprawl (see Table 5).

Table 5

Growth of urban population in the context of the industrial heyday (Puerto Libre and Board Advancement of Arica)

	1940-1952	1952-1960	1960-1970
Arica	2.34%	10.62%	7.13%
country	2.57%	4.36%	2.87%

Source: own elaboration from INE statistics.

In the late fifties they emerged new economic institutions that supported the expansive force of trade and industrial development of the city. In this regard, the Junta de Adelanto de Arica (JAA), an institution with budgetary autonomy that became the main force of public investment in the city was created in 1958. The extraordinary institutional role of the "Junta de Adelanto de Arica" materialized with a series of public works, housing construction and implementation of various articulated with different government departments, including the Regional Planning Commission (CERPLAN) programs. The institution also provided with capital and credit lines for industrial expansion of the city, this allowed the operation of several projects, which synchronized production and the creation of large industrial complexes that helped meet local and national needs, leaving the city able to attend supranational emerged to the markets under the Treaty of Montevideo. During the time "golden age" of Arica, the gross state product exceeded the annual growth rate of Santiago and the average of the country, as shown in Table 6.

Table 6  
Gross Domestic Product in Arica in Millions (1960-1970)

	1960	1967	1970	Annual growth rate	
				60-70	67-70
Dept. Arica					
Total	127.76	291.07	394.32	11.93%	10.65%
Industry	12.16	94.88	141.02	27.77%	14.12%
Ind.	9.52	32.60	35.76		
/Total%					
Santiago					
Total	5635.90	8878.90	9659.30	5.54%	2.85%



Industry	1689.10	3000.60	3102.10	6.27%	1.12%
Ind.	29.97	33.79	32.12		
/Total%					
Country					
Total	14098.70	19765.50	21572.00	4.34%	2.96%
Industry	3236.20	5190.20	5366.00	5.19%	1.12%
Ind.	22.95	26.26	24.87		
/Total%					

Source: elaborated based on Diaz and Méndez (1975) and Silva (1988).

From 1974, and the new macroeconomic ideas of liberalization and deregulation of the economy the city loses the economic role, a situation which is explained by the release of customs duty that accelerated the creation of the Free Trade Zone of the city of Iquique. Given the new conditions, the city suffered major migration to automotive assembly industries. At the same time, the border with Peru and Bolivia condition heightened military threats, which ended up weakening investment and economic expansion of the territory. In 1976, the “Junta de Adelanto de Arica” was dissolved by Decree Law N°1612-12, disappearing from the local scene the institution responsible for promoting economic and social development of the territory. Recent history (1990-2018) shows a significant lag with the rest of the country in most economic indicators. In this sense, GDP per capita\*\* the region does not exceed 1%, and generally has a lower performance than the average in R&D, innovation and employment. The presence of micro, small and medium enterprises is very important in the industrial structure of the region, representing 99% of formal establishments at the regional level. According to statistics from the Internal Revenue Service in the year 2017 16.758 companies (see figure 1) were recorded.

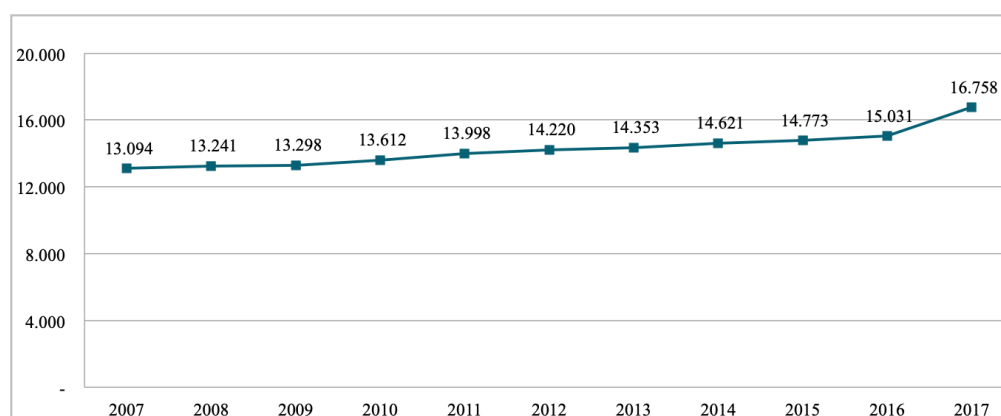


Figure 1. Evolution of the Business Park of Arica and Parinacota

Source: Prepared own statistics from SII.

In turn, companies by commune show a positive development for the period 2007-2017, however, emphasizes the difference existing between the business of the town of Arica on the three rural communes. In the latter, many indigenous enterprises are concentrated, and initiatives aimed at self-consumption, which in turn is associated with informality. This situation is reinforced by the enormous lack of public goods and enabling infrastructure as well as by the lack of opportunities for education, which further accentuates rural depopulation. These regional imbalances are linked to internal processes and migration policies state that strengthened the commune of Arica over the past five decades.

\*\*Per capita GDP XV Region of Arica and Parinacota (6.105 USD PPP). Penultimate after Araucanía region, which presents 5.099 USD PPA, according to figures from the Census 2012.

Table 7  
Companies commune (2007-2017)

Commune	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Arica	12.92	13.07	13.11	13.42	13.80	14.00	14.13	14.62	14.54	14.80	16.50
Putre	7	1	7	9	0	2	8	1	6	7	8
General Lagos	108	109	116	109	113	124	122	120	119	117	132
Camarones	13	12	11	12	13	11	10	8	11	10	12
Total	46	49	54	62	72	83	83	95	97	97	106
	13.09	13.24	13.29	13.61	13.99	14.22	14.35	14.62	14.77	15.03	16.75
	4	1	8	2	8	0	3	1	3	1	8

Source: Prepared own statistics from SII.

#### *Economic Impact and Areas Served by the Program in Arica*

Then a set of impact indicators and business growth occurs, which later they shall be interpreted in an evolutionary framework explaining structural changes accumulated over the period. Early results obtained suggest that training and counseling provided by the program, the instructional be oriented to the application of new knowledge and skills, help reduce common knowledge gaps. Adoption of new business approaches that help improve the performance and returns of assisted firms were also observed. These transformation processes are based on the confidential, personalized support and systematic monitoring of actions committed in each business assistance plans. Table 8 shows the main indicators of economic impact achieved on March 31, 2019, are identified.

Table 8  
Economic impact obtained by the Center Arica (2015-2019)

Indicator	Year 1 <sup>††</sup>	Year 2	Year 3	Year 4 <sup>‡‡</sup>	Cumulative Total / Average
	2015-2016	2016-2017	2017-2018	2018-2019	
assisted clients	321	497	457	302	1,577
Customers assisted by counsel	80	107	107	107	100
Hours of counseling per client	10,3	8,7	8,0	6,0	8,25
Firms reporting increased sales	35	135	140	66	376
Increase in sales (\$ Thousands CLP)	205.445.32	105.039.187	155.245.321	127.1362.39	4.079.652.800
	0	4	0	6	
% Of companies served to increase sales	10,9%	27,5%	31,4%	21,8%	22,9%
% Share of the increase in sales generated Gazelles (N3)	55,9%	41,7%	32,5%	42,7%	39,2%
% Increase in sales generated by women	42,9%	57,7%	51,7%	58,5%	52,7%
% Sales increase generated by men	48,6%	37,2%	43,4%	41,5%	42,7%
jobs created	37	34	45	46	162
Emprendimientos formalized in the first category	32	44	41	15	132
Enterprises formalized% of total customers N1	36%	35%	39%	41%	37%
obtained financing (savings and	183.186.09	121.404.820	171.569.425	213.268.614	689.428.957

<sup>††</sup> The first year of operation the program focused its efforts on the installation process and attracting the first customers. Hence, the goals were lower.

<sup>‡‡</sup> Data obtained from the Neoserra platform on March 31, 2019. The fourth year ends on September 30, 2019; therefore, the values are subject to further increases that will positively affect the economic impact of the program.

loans requested the employer to support the program) CLP	8				
obtained financing (subsidies)	44.626.103	73.400.529	67.579.028	28.400.000	214.005.660

Source: Elaborated from Neoserra database.

Table 9  
The overall percentage of sales increased by economic sector (2015-2019)

Sector	% Increase in sales <sup>§§</sup>
Services	54.0
farming	80.3
Trade to the wholesale and retail	49.2
Hosting service, food and tourism	64.6
Transport and Storage	13,0
Manufacture	42.5
other sectors	50.6

Source: Compiled from Neoserra

Table 10  
Main requirements advice by economic sector (2015-2019)

Sector	Business Administration	Business plan	Marketing and Sales	Financing	Opening Business
Services	26.3	27.5	20.3	13.4	12.6
farming	27.1	26.8	24.4	15.0	6.7
Trade to the wholesale and retail	26.3	19.2	30.2	15.1	9,15
Hosting service, food and tourism	25.8	33.8	15.1	17.4	7.8
Transport and Storage	21.3	27.6	17.6	26.2	7.2
Manufacture	28.7	23.8	22.7	13.8	11.0
other sectors	27.7	26.1	19.0	15.0	12.1

Source: Compiled from Neoserra own

Table 11  
Participation increased sales by size, economic sector, and ethnicity

	Year 1	Year 2	Year 3	Year 4	Average
	2015-2016	2016-2017	2017-2018	2018-2019	
Micro	28.6	61.4	61.9	63.5	53.9
Little	55.2	34.4	32.6	35.6	39.4
Median	16.2	4.3	5.4	0.9	6.7
Services	20.6	29.6	38.9	59.4	37.1
farming	4.2	10.3	4.7	14.4	8.4
Trade to the wholesale and retail	29.5	34.2	23.9	7.9	23.9
Hosting services, food and tourism	9.1	7.9	5.9	11.2	8.5

<sup>§§</sup> Increases in sales are calculated based on the following formula ((final sales level - level Initial sales) / (initial sales level)) \* 100. Revenues correspond to the gross of the taxable amount of monthly VAT returns obtained from the platform of the Internal Revenue Service.

Transport and Storage	17.1	2.9	5.6	0	6.4
Manufacture	1.0	8.2	3.5	6.4	4.8
other sectors	18,6	6.9	17.4	0.8	10.9
With ethnicity (Aymara, Quechua, Other)	28.5	33.3	30.7	34.8	31.8
No Ethnicity (States belonging to ethnic original)	71.5	66.7	69.3	65.2	68.2

Source: Compiled from Neoserra

## Results and Discussion

The descriptive statistical variables resulting from the breakdown, analyzed in Tables 8, 9, 10 and 11, show the main entrepreneurial differences according to gender, size, economic sector and ethnicity. In this regard, although entrepreneurial trajectories and experiences are very heterogeneous, the main trends indicate that women-led and gazelle businesses are the most innovative and have achieved better results in the rate of sales growth. Despite the fact that microenterprises and the service sector have a higher share in the same indicator, assisted enterprises in the agricultural area with ethnic origin, exhibit higher growth. In view of the above, you will find this qualitative information in the conclusions of the article. The cost-benefit analysis is one of the many tools that help you understand whether public programs are having the desired effects. When interventions are carried out with rigor and efficiency, the tool provides evidence of performance metrics, comparing the resulting difference between the costs involved and the benefits that are generated by the program being evaluated. Considering the above, increases in sales generated by the Center of Arica, divided by annual operating expenses to achieve a cost-benefit ratio. The total budget of the Center was used, according to data obtained from the Annual Performance Agreements concluded between SERCOTEC and the University of Tarapacá and the results of surveys of economic impact for this calculation. According to the estimates made in Table 12, the cost/benefit of the program relationship is positive, considering that increases in sales occurred in the period 2015-2019, suggest that the group of companies assisted generated \$2.8 pesos per \$1 CLP invested.

Table 12  
Cost-Benefit Analysis (2015-2019)

	Year 1 (CLP)	Year 2 (CLP)	Year 3 (CLP)	Year 4*** (CLP)	Cumulative Total
	2015-2016	2016-2017	2017-2018	2018-2019	
SERCOTEC	197.921.000	203.990.000	205.510.000	205.510.000	812.931.000
University of Tarapaca	216.900.000	108.180.000	108.180.000	108.180.000	541.440.000
other contributions	16.000.000	16.000.000	19.000.000	19.000.000	70.000.000
Operating cost	430.821.000	328.170.000	332.690.000	332.690.000	142.437.1000
Increased sales	205.445.320	1.050.391.87 4	1.552.453.21 0	1.271.362.39 6	4.079.652.800
cost-benefit ratio measured by the increase in sales	-0.5	3.2	4.7	3.8	2.8
Tax collection (VAT)	88.474.351	459.981.300	117.688.147 6	651.533.036	2.376.870.164
Cost-Benefit measured by the increase in tax revenue	-0.2	1.4	3.5	2.0	1.7

Source: Elaborated from Neoserra database

\*\*\*Note: Data obtained from the Neoserra platform on March 31, 2019. Values are subject to further increases that will positively affect the cost-benefit ratio of the program.

## Conclusions

In this article, we examined the management problems and lack of professionalism faced by micro and small businesses to grow and develop, and the ability to counter them effectively through the provision of business services. Although it is difficult to establish precisely the "ultimate" reasons that underlie these business improvements, following the wide variety of enterprises and businesses assisted by the program, it seems reasonable to conclude that they reveal a transformation deep in assisted companies, consistent with that originally intended by the impacts SERCOTEC.

This form of causality appears to analyze satisfaction surveys and economic impact, where it was possible to show that the results obtained quantitative and qualitative level, are the result of a series of actions aimed at resolving internal and problematic deficiencies common, including overcoming problems of access to new markets, access to finance and manage forms more efficiently the resources and capabilities of the company. From the foregoing, the attendance areas examined (business administration, development and consolidation of models and business plans, marketing and sales and access to finance) responded to the rationale behind the diagnosis of early intervention that faced each segment attended. The various measures implemented in each company, to explain some changes in routines and behaviors "management" and other internal dimensions, which were addressed along each of the interventions.

Considering the variables slitting, business differences based on gender, size, economic sector, and ethnicity, explain much of the observed behaviors in clients assisted. In this regard, although the paths and business experiences are very heterogeneous, the main trends indicate that companies led by women and gazelle companies (N3) have fared better in the rate of increase in sales. The magnitude of the overall impacts highlights the growing business owner's ethnicity. This finding falls within what would be expected, because it is, in the first case of a region with a strong presence of indigenous people, and secondly, by the transformation notorious and changes in attitude of microentrepreneurs in the areas of services, agriculture and manufacturing craft (Aymara craftsmanship with local identity). In the latter case, considering that evolutionary theories have an empirical basis of much explanatory value, historical patterns of the Aymara people also determine their behavior and commercial singularities. Therefore, it should be noted that the processes of knowledge transfer in this customer segment.

Generally speaking, rates of increase in sales analyzed are very positive (quarterly, semiannual and annual), and the main similarities of the best economic performance of the agricultural sector can be explained by the following reasons. First, agricultural enterprises with better economic performance, participate simultaneously in a collective project called "Pampa Concordia". Firms are relatively young and are characterized by growing and marketing specialty vegetables on innovative production systems undercover (cherry tomato, basil and capulfi). These companies are characterized by a sustained ability to identify new market opportunities and make efficient use of productive resources. The latter situation is key, since soil conditions and local climate, induce constantly innovate, using high-precision production technologies from Israel and Spain. Of particular note in this analysis gazelle agricultural enterprises.

In analyzing assistance business plans, companies have certain correlations. Among them, the owners are of Aymara origin, university graduates and have an associative important history. The main motivation that gave rise to the use of counseling, included the development of plans and business models, identifying new markets, specialized support for obtaining certifications (BPA, Global Gap) and assistance in finding financing. It is important to mention that assisted companies market their products in more profitable markets, which explains its best business performance. Another element that characterizes the companies mentioned, is its capacity for experimentation and continuous transmission of information, encouraging horizontal relations between the same companies, customers and suppliers of agricultural inputs and technologies. In this context, the Business Development Center provides a range of commercial connections, specialized counseling and training opportunities, positively influencing networking. Moreover, obtaining financing obtained with the support of the program also responds to the business reputation of firms and their inherent ability to present more innovative and competitive projects. In such a case, assisted agricultural initiatives supported by the Center, respond very well to the placement rate obtained financing, including projects DFL15 CORFO, SERCOTEC multi-sector projects, obtaining bank finance and investment savings capital. Undoubtedly, entrepreneurs assisted assembly (450 per year) also makes extensive use of consultants and training, especially to have better capabilities to attract funds and exploit their competitive advantages.

From an institutional perspective, the overall analysis of the program showed that the breakeven planned for the center of Arica was achieved in the third year of operation (2017-2018), where the percentage of clients with increases in sales reached a figure of 31%. In this same sense, as rated by customers, 10.4% of assisted enterprises (N1) show increases in sales, while 35.3% of the portfolio of established companies (N2) and 80% of gazelle

companies (N3) attributed to the increases in their sales program. Regarding the cost-benefit analysis is extracted, that increases in sales designed between the period 2015-2019, as a result of improvements in the performance of clients assisted generated \$2.8 pesos for every \$1 spent weight. Therefore, the evidence presented here indicates that advised customers, generate more sales opportunities, job creation and obtaining financing, creating tax returns positive and justifying its continuity over time.

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