

Enterprise Development Centers: Evaluation of Results and Lessons Learned in Four Projects in Latin America

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I. THE EDC PROJECT

1. Introduction and purpose of the initiative

The Enterprise Development Centers (EDC) created along the past few years in several Latin-American countries are an initiative of the Inter-American Development Bank (IADB) with two key objectives: to stimulate the enterprise service market on the demand side and to set up a sustainable institutional framework. The idea is to support change and modernization of the plant facilities of small and medium-size companies in the region. The Bank has provided financing from the Multilateral Investment Fund (MIF) which it manages.

The task before these EDCs is to work around a fragile set of *SMEs* unaccustomed to foreign competition. In practice, they must help small and medium-size companies (SMEs) -- averaging 5 to 99 employees -- to diagnose their technical and managerial problems, to advise them in hiring technical assistance services in the market, to share the cost of such hiring, and to evaluate the outcome of using such services jointly with the beneficiary companies.

Inseparably tied in to the above goals, EDC projects attempt to enlarge the enterprise service market both locally and regionally by stimulating new demand opportunities for the participating companies.

Some additional goals are: to promote collective actions by groups of *SMEs*, to improve the focus of local service supply, to strengthen enterprise organizations via their participation in the management of the Centers, and to provide the means for local issues to be considered in the regional or national policies concerning small businesses.

In the time frame of each national project (from 3 to 4 years), the end result should be the consolidation of a network of private and self-reliant Enterprise Development Centers to effectively boost the demand for technical assistance by small businesses.

There are now 10 EDCs operating: one in Costa Rica, one in El Salvador, five in Colombia (Santa Fe de Bogota, Medellín, Cali, Barranquilla, and Bucaramanga), and three in Argentina (Rafaela, San Rafael and Mar del Plata). The first two have support *antennas* at some localities.

The purpose of this paper is to describe and review the creation, development and outlook for the several EDC projects currently in operation in Costa Rica, El Salvador, Colombia and Argentina¹. Beyond the task of data standardization, it provides a time-oriented and comparative overview of the results most relevant for a clear understanding of this new approach to enterprise promotion. Some qualitative remarks are advanced also on the basis of comments made by the agents that play an active role in their development. All of this

¹ Three sources of data were used to draft this paper: 1) Data supplied by those in charge of carrying out the projects, collected in a survey especially developed for this study (a standard data matrix, the *sustainability* fund, and a survey on qualitative factors); 2) Progress evaluation reports or tutorial reports and other forms of monitoring performed by independent outside consultants, and IADB reports; and 3) Bibliographical reference material and working documents of cooperation agencies that have expertise on the *SMEs* of the region, as well as the *Donor Committee on Small Enterprise Development*.

leads finally to the main lessons learned from the set of projects to date, as well as a few recommendations for future action.

Table 1
Enterprise Development Centers (EDC) in Latin America
IADB/MIF

Country	Project Name	National Executive Agency	Time Frame	No. of local ent.	EDC
Costa Rica	Competitiveness for small companies (PROGRESE)	Costa Rican Chamber of Industry (CICR)	1995/98 Ext.: 2000	6 (2)	7 CEEMs (1)
El Salvador	Support to production development and competitiveness (SIAPE)	National Assoc. of Private Companies (ANEP)	1995/98 Ext.: 2000	7 (3)	7 CEEMs (1)
Argentina	Network of Enterprise Development Centers	Argentine Industrial Union (UIA)	1995/99	12 (3 Foundations) (4)	-Rafaela -Mar del Plata -San Rafael
Colombia	National Program on Enterprise Development Centers	Confecámaras	1995/98 Prev: 2000	14 (5 Regional Executive Units) (5)	-Bogota -Medellín -Cali -Barranquilla -Bucaramang

- (1) CEEMs: Enterprise Extension Centers, in the offices and with staff of co-managing organizations.
- (2) Technological Management Center Foundation, Costa Rican Coalition of Development Initiatives, Bolívar Program, Chamber of Costa Rican Exporters, Costa Rican Union of private enterprise Chambers and Associations .
- (3) ASI, COEXPORT, FUSADES, Santa Ana Chamber of Commerce and Industry, CCI of San Salvador, CCI of San Miguel.
- (4) Rafaela: Castellanos Dept. Commercial and Industrial Center, Foreign Trade Chamber, Chamber of Metallurgical Industries, Foundation for Regional Development, Center for Industry, Commerce and Farming, Las Colonias Dept., San Francisco Association of Metallurgical Industries; Mar del Plata: Commercial, Industrial and Production Union; San Rafael: San Rafael Chamber of Industry, Commerce and Agriculture and Cattle Breeding.
- (5) Santa Fe de Bogotá: Chamber of Commerce of Bogotá, ACOPI; Medellín: University EAFIT, ACOPI, Chamber of Commerce Medellín; Cali: Chamber of Commerce Cali, ACOPI, Universidad del Valle; Barranquilla: Chamber of Commerce Barranquilla, ACOPI, CORPES/Costa Atlántica; Bucaramanga: Chamber of Commerce Bucaramanga, Universidad Autónoma, ACOPI.

2. Organization of the EDCs

The Executive Agency in each project is a private and enterprise organization (Chambers of Industry, enterprise Associations and other Foundations or entities working toward the promotion of industry, regional development and *SMEs*). See Table 1.

Each National Executive Agency has a National Coordination Office or Unit whose stated mission is to draft annual plans, to coordinate and supervise EDC activities, to standardize managerial procedures, and to encourage the joint use of instruments, methods and expertise by working as a network.

Argentina and Colombia have Regional Executive Agencies to manage their projects regionally. The Argentine agency is legally structured as a Foundation, while in Colombia

one of the local counterpart entities has been delegated the executive function. In Costa Rica and El Salvador local participating organizations have a *delegation* or Enterprise Extension Center (CEEM) in their own offices to provide all project services. The institutional and strategic management of each EDC is handled by a Board of Directors.

Each EDC has a small team of expert professionals who act as internal Consultants for the Center. The staff is led by a Manager selected according to strict criteria by the Board of Directors, which in turn coordinates development activities via an Annual Management Plan containing the company guidelines. The staff also has two or three technical people (usually engineers or economists), an administrative supervisor and occasionally an assistant manager. Some Centers have introduced the job of “in-house program coordinator” who is assigned a special task over a preset period of time.

All technical staff members –including the Manager- working for the EDC are paid under a professional service contract negotiated on an annual basis according to the rate of target completion. There are no labor ties, therefore. As a rule, compensation criteria are dictated by market practices. In some cases a results-based incentive compensation scheme was attempted but results have been inconclusive so far. The administrative staff, however do have contractual and labor ties with the local leader institution.

Offices are usually located in the premises of the host institution (sometimes a university with a strong business school and enterprise services) that acts as leader over the local counterparts. Some of these physical facilities, for the most part modest in terms of space and infrastructure, are so closely integrated into the premises that it would be hard to tell them apart from the host institution, except maybe for a sign identifying the EDC project. Others, however, are better located and easier to identify, which in turn affords them the independent management required for the project.

They usually operate as follows: each EDC, in line with its business strategy, provides service intermediation normally via door-to-door visits to companies and prepares a preliminary diagnosis of that company’s needs. When an *SME* asks the EDC for an outside service where EDC staff may or may not have helped identify, the Center calls on several expert consultants for bids that are submitted to the company for assisted consideration; the company selects the consultant; a service contract is signed binding all three parties: the company, the EDC and the consultant. Once the service is completed, the company pays EDC the cost agreed to in the contract minus the amount brought in by the EDC as a MIF subsidy; the EDC pays the Consultant the fee provided for in the contract. This arrangement will be discussed further below.

Services may also be provided directly by the Centers either through their own technical staff (training, information and occasionally direct technical assistance) or via the local co-executive agencies that may hire full-time *extension* agents for the project. The best examples of the latter format are in Costa Rica and El Salvador.

For setting the prices or fees charged of the companies, the projects have a prorata arrangement with gradual increases which will make them self-financed and cover budget needs through the end of the project. The rates have been defined considering what is available in the market and the companies’ ability to pay. If the service required is not available in a given market, its implementation cost was taken as a reference.

3. Financing Center Projects

Contributions from the IADB/MIF² are primarily to finance the technical staff payroll of each EDC and part of the cost of hiring outside consultants to provide their services to the different companies. The local counterpart funds are earmarked to support actions in general and the physical infrastructure of EDCs (offices, equipment...) and compensation of their administrative staff. Finally, as shown in Table 2, a third component of the financing arrangement for the project in Argentina and Colombia comes from the income earned by each Center from beneficiary companies. In El Salvador and Costa Rica the near totality of the income is 'saved' in a Sustainability Fund.

Table 2
Financing of EDC projects and contributions (in US\$)

Country	Total Project Cost	IADB/MIF		Local Ent.		EDC Income Sale services		Reserve Fund (sustainability)	
		Contribution	%	Contribution	%	Contribution	%	% of income.	
Costa Rica	3,340,000	2,491,000	74.6	701,000	21.0		4.4	913,000	100.0
El Salvador	2,758,000	2,070,000	75.0	688,000	25.0	(1)		1,195,200	100.0
Argentina	15,254,660	8,475,000	55.6	2,908,100	19.1	3,871,560	25.3	931,890	20.0
Colombia	10,314,547	5,966,641	57.8	1,227,906	11.9	3,120,000	30.3	936,000	30.0

(1) All EDC income received from the companies is allocated to the *Sustainability Fund*.

There are two type of projects in terms of their cost and financing: one adopted by the two small Central American countries, where the IADB/MIF puts in three fourths of the total cost while the local counterparts cover the remaining fourth. The uncertainty of generating income from the sale of services in those countries advises against having project completion depend on income generated. In the other approach adopted in relatively bigger countries, the IADB/MIF finances around 55 % and the remaining 45% must be covered by the local entities and the income generated by the EDC itself.

The concept of EDC *self-reliance* is based on the assumption that for each project, once the MIF stops sending in its aid (at the end of the 3rd or 4th year, depending on the project), the Center concerned will be charging market rates and may even secure a discount from *SME* service providers for its part in intermediating and generating trust among the business owners involved. This discount given by providers or an intermediation fee charged of the companies could then cover the fixed costs of each center.

By way of introducing a manner of thinking and discipline conducive to program continuity and sustainability each project provides that Centers will retain part of the income from sales of services to set up a Reserve or *Sustainability Fund* –as shown in Table 2- according to different formulas or percentages for each EDC. One expected outcome of the application of these Reserve Funds is to extend the impact of the IADB/MIF contribution beyond the

² The IADB justifies the non-reimbursable nature of its contribution as follows: i) in is seed money for human capital for the setting up of services Centers that otherwise would never be established, ii) the MIF contribution is temporary because the EDCs are expected to be *self-sustained* at project completion, iii) part of the EDCs' activity is oriented to stimulating demand for services from smaller companies, which is a non-repayable activity, iv) these companies have the greatest difficulty to hire outside services; for this reason, it is essential –in line with the international experience of OECD countries – to encourage demand formation among them via subsidies, and v) the risk is shared with the local private sponsor institutions that also contribute by way of counterpart financing.

expected project duration, provided that EDCs have managed to earn and save part of their earnings.

II. RESULTS

This review of the preliminary results of the EDC projects focuses on four core issues: the extent of coverage of the services from the demand side; the cost of providing new services, the income generated and the rate of self-financing; the apparent impact on service suppliers to *SMEs*; and the learning curve for the institutional consolidation of the EDCs.

4. Coverage of EDC services vis-à-vis the target companies

This section discusses the key indicators to measure the achievement of objectives and the factors affecting the degree of success or failure. The first item is a review of the number of companies assisted by the Centers. Next, a few comments are made regarding their size. Third, there is a review of the profile of services provided under EDC intermediation. And finally, an analysis is performed of the rate of satisfaction of EDC user companies, as well as of how collective services have been utilized.

4.1 Degree of enterprise coverage

Table 3 displays a breakdown by semester of the growth trend in the number of companies assisted by a EDC for the first time, as well as weight of the EDC's performance in comparison to the entire set of *SMEs* operating within the geographical area of each Center. The data currently available includes companies assisted on all classes of services, either individually or in pools of companies.

The following general conclusions and considerations can be drawn here:

- 1) The EDC project has accomplished much in attracting over 4,000 different companies showing an effective demand in the enterprise service market in the 4 countries involved. More than 2,800 of them were from two small countries (Costa Rica and El Salvador). Considering the universe of companies in the target group, the EDCs of all four countries have provided services to more than 12 % of the total, an impressive percentage.
- 2) The trend in number of companies served by EDCs is generally upward, reflecting the growing impact of the project. Some underlying factor behind this growth in enterprise coverage are:
 - a) The starting point of each Center. Those with closer ties to the business community in which they develop because they have been in similar sectors (Rafaela, Argentina) took off with a very large number of clients.
 - b) The different business strategies of the EDCs. While some Centers have adopted a broad coverage approach, others chose to focus intensively on a smaller number of companies and work more closely with them, especially in the early stages when the Center was still new.
 - c) A possible exhaustion of the target market. In El Salvador, for example, the number of companies assisted per semester has been steadily declining since the first half of 1997. Saturation of the target company niche, reduction of the outside funding as the project nears completion or – more likely – the need to focus on companies that can pay might be the main reasons behind this pattern of behavior.

Table 3
Degree of company coverage by the EDCs:
evolution of new companies assisted per semester
 (through June 30, 1998) (1)

Country	sem I	sem II	sem I	sem II	sem I	sem II	sem I	TOTAL		SME Target Group (2)
	1995	1995	1996	1996	1997	1997	1998	Number	%s/TG	
Costa Rica	0	0	70	230	433	480	614	1827	37.9	4,822
El Salvador	28	246	160	261	142	87	66	990	10.2	9,721
Argentina	-	-	-	-	201	394	413	1008	20.0	5,050
- EDC Rafaela	-	-	-	-	125	182	292	599	23.6	2,540
- EDC Mar del P.	-	-	-	-	25	141	31	197	15.6	1,260
- San Rafael	-	-	-	-	51	71	90	212	17.0	1,250
Colombia	-	-	-	-	19	104	203	326	2.2	14,699
- EDC Bogotá	-	-	-	-	-	14	42	56	0.9	6,577
- EDC Medellín	-	-	-	-	8	18	40	66	2.3	2,818
- EDC Cali	-	-	-	-	-	19	36	55	2.1	2,587
- EDC Barranquilla	-	-	-	-	11	26	69	106	9.9	1,067
- EDC Bucaraman.	-	-	-	-	-	27	16	43	2.6	1,650
TOTAL	28	246	230	491	795	1,065	1,296	4,151	12.1	34,242

- (1) **Note that in Costa Rica and El Salvador the projects were near completion but have been extended through the year 2000. Argentina and Colombia are halfway into the projects. See Table 1.**
- (2) *SME* Target Group (TG): manufacturing companies with 5 to 99 employees in the area of operation of a EDC or set of EDCs, if a country has more than one. Data from official statistics and of project reports.

4.2 Company Size

Table 4 makes a distinction between three classes of companies: less than 20 workers; 21 to 100, and over 99 (this latter group is "off target," i.e. because of their size they get no subsidy). These data, other quantitative information available from the EDCs, and direct observation point to the following:

Table 4
Size of companies assisted by the EDCs (through June 30, 1998)

Country	1/ 20 employees		21/99 employees		>99 employees		TOTAL
	number	%s/tot	number	%s/tot	number	%s/tot	
Costa Rica	939	51.4	665	36.4	(1) 223	12,2	1,827
El Salvador	748	75.6	220	22.2	22	2,2	990
Argentina	831	82.4	137	13.6	(3) 40	4,0	1,008
Colombia	119	36.5	177	54.3	30	9,2	326
TOTAL	2,637	63.5	1,199	28.9	315	7,6	4,151

- (1) The EDC of Costa Rica has increased the services provided to companies of more than 99 employees considerably in the first semester of 1998 (135 units; i.e. 60 % of the total 223)
- (2) Of these 40 companies with over 100 employees, 37 are working with the Rafaela EDC.

- 1) As expected, there is a strong predominance (nearly two thirds) of the smallest business segment (under 20 workers), and more than one out of each four in the intermediate

segment (20 to 100 workers). This indicator may serve as a benchmark for the type and design of programs carried out by the Centers. The low range found in the first segment calls for more basic services suitable for more extensive sales. On the other hand, mid-sized companies (around 100 workers) embarked on a modernization effort require more intensive, sophisticated and value-added programs and services. The comparative data shows that mid-sized *SMEs* generally benefit the most from the products of innovation and induce an environment conducive to positive externalities.

- 2) The information available for each country on the trends regarding the average size of client companies reveals that as the project advances the Centers are forced to meet their billing and sustainability targets and therefore shift the focus of their business effort to bigger relative size companies.
- 3) Working outside the scope of *eligible* companies (>99 workers) are Costa Rica, Colombia –whose “target market” extends to 199 employees- and the Rafaela EDC (Argentina): in all, one out of each 13 companies assisted has more than 100 employees. This consideration to “off-target” companies is prompted by the proactive approach of some Centers (because of their strategic regional significance); the full business use of the EDC’s technical capabilities; and by a certain pressure exerted by a demand segment with higher purchasing power (at no subsidy), which in turn allows a cross subsidy to be offered to smaller companies. The most popular services are: customization of management training programs (Costa Rica, some cases in Argentina); preparation of company pools for quality certification; drafting of strategic company plans (Colombia); arrangement for subcontracting of company pools by large companies that are the *driver* of leading sectors in the region (Argentina, Costa Rica).
- 4) Some large corporations –whose top managers have connections with partners associations in the project- hire services from the Centers that may benefit their *standing* and enterprise goals and simultaneously help consolidate the project.

4.3 Types of services provided by EDCs directly or via their intermediation

Each project determines the services to be rendered by the EDCs to country or local companies. However, in every single instance there has been an evolution of these services following the marketing plan developed by each Center with their own sources of supply, as a result of the response of the companies to the plan, and thanks to a prompt match by the Center between the supply and demand sides. The most prevalent profile of these services –gleaned from a review of the entire range offered by the 10 EDCs - is presented in appendix 1.

According to data provided by the Centers and given the business and demand figures (since the two variables are often linked), the three most successful classes of services by order of importance are:

1^o- Business management training (a wide variety of subjects concerning the production and business cycle) via continuous improvement techniques.

2^o- Technical assistance through consulting tools. The leaders here are programs on the start and implementation of systems for industrial quality certification (in Colombia the assistance has been mostly in “competitive evaluation of a company” –diagnoses- and in projects for “specific improvements”).

3^o- Sales and exportation support services (usually foreign trade promotion programs).

The Center managers also mention the programs they feel are especially important and strategic to achieve higher value-added targets. Among others are: the encouragement of company networking (El Salvador); a subcontracting exchange and electronic business opportunities (Costa Rica); strategic planning and management –under the national training program - (Colombia); program to improve company management – company workshops,

organization and development of top managers- (Argentina/Rafaela); programs of a sectoral nature (Argentina: Mar del Plata, San Rafael and Rafaela).

4.4 Analysis of user satisfaction and rates of collective assistance

Table 5 analyzes services to new clients of the EDC as well as the repeat rate of demand from the same clients, where a high repeat rate can imply that the service is highly valued by the clients, particularly considering the fact that they pay for them. However, this might also have two meanings of opposite significance: the first has to do indeed with client satisfaction, that is, how interesting it may be for the companies (and the Center) to receive (and provide) new more value-added services; the second involves the risk that the Center may fall into the trap of *clientele politics*, i.e. establishing such close relations that in time could distort the service provided/received. The limited time span of the projects so far has not shed much light on this issue.

The set of data available point to the following conclusions and thoughts:

- 1) By mid-1998 services had been rendered in over 6,000 occasions. The *repeat rate* is 1.5; in other words, on average half the companies that have utilized EDC services have been assisted twice, which seems to reflect good customer satisfaction.
- 2) El Salvador and the Rafaela/Argentina EDC are above average. The projects of Colombia (still too new to build client loyalty) and Costa Rica (seeking new clients of higher purchasing power) have a lower rate of repeated assistance to the same companies. Such results would lead to the assumption that generally speaking, the performance of the EDCs has been more extensive than intensive; in other words, probably due to time constraints in the struggle to meet their targets, the Centers have chosen to make a "global strike" at the broad *SMEs* market, especially during the first two years of project development. Every Center manager and technical staff can "sell" their product better in the short run – and earn more credibility for it – if they show strong growth figures; and the first figures an enterprise promotion entity has to show relate to the number of companies assisted.

Table 5
**Repeat rate versus total number of assistance jobs to companies
(new + repetitions). Per semester.**

Country	sem I 1995	sem II 1995	Sem I 1996	sem II 1996	sem I 1997	sem II 1997	sem I 1998	TOTAL	RR (1)
Costa Rica	0	0	70	238	455	568	698	2,029	1.1
El Salvador	26	292	306	799	296	233	194	2,146	2.2
Argentina	-	-	-	-	216	594	628	1,438	1.4
- Rafaela EDC	-	-	-	-	123	358	448	929	1.6
- Mar del P. EDC	-	-	-	-	25	141	31	197	1.0
- San Rafael	-	-	-	-	68	95	149	312	1.5
Colombia	-	-	-	-	28	151	231	410	1.3
- Bogotá EDC	-	-	-	-	-	17	46	63	1.1
- Medellín EDC	-	-	-	-	8	21	52	81	1.2
- Cali EDC	-	-	-	-	-	28	45	73	1.3
- Barranquilla EDC	-	-	-	-	20	38	56	114	1.1
- Bucaraman. EDC	-	-	-	-	-	47	32	79	1.8
TOTAL	26	292	376	1,037	995	1,546	1,728	6,023	1.5

(1) **RR**: Repeat rate of companies requesting more than one service from the EDC, equivalent to the ratio between total number of assistance jobs and the same for the new companies on the Table 3. Computed only for the total number of assistance jobs provided by each EDC.

Table 6 distinguishes between the assistance given to individual companies and what the EDC offers to a group of similar *SMEs* on a given issue at the same time. This kind of collective action generates economies of scale in terms of service cost and creates the habit of cooperation and emulation among the user companies. Such collective services, a strong point of the project, is closely tied in to management training programs, to strategic sectoral workshops, and on a more advanced stage, to the preparation quality certification, internationalization initiatives, and transfer of technology between companies.

Table 6
Rates of individual and collective assistance
 (from project start through June 30, 1998)

Country	Individual Assistance		Collective Assistance	
	Number	IAR (1)	number	CAR (2)
Costa Rica	595	29.3 %	145	9.9
El Salvador	966	45.0 %	63	18.7
Argentina	36	2.5 %	87	16.1
- Rafaela EDC	15	1.6 %	53	17.2
- Mar del P. EDC	13	6.6 %	10	18.4
- San Rafael EDC	8	2.6 %	24	12.7
Colombia	387	94.4 %	23	1.0

(1) **IAR**: Individual Assistance Rate, equivalent to the ratio between the number of individual assistance jobs and the total number of assistance jobs (new companies plus repetitions, Table 5). The result represents the greater (closer to 100) or lesser (closer to 0) emphasis on companies individually.

(2) **CAR**: Collective Assistance Rate, equivalent to the ratio between the differential of the total number of assistance jobs (new plus repeats) minus the number of individual assistance jobs and the number of collective assistance jobs. The result is the arithmetic average of the number of companies assisted by a EDC in each kind of collective services it has rendered.

- 1) On the *Individual/Collective Assistance Rate*: Argentina stands out for its collective approach, while Colombia is at the opposite extreme (although its figures show a trend shifting in the other direction along '98). The fact is that Argentina has emphasized the offer of collective services the most, due to two factors: a company environment more prone to cooperation, and a decision of the EDC to assign priority to this type of collective action.
- 2) El Salvador serves an average of approximately 20 companies per collective action; they are more than 15 in Argentina; and nearly 10 in Costa Rica. This is another striking difference: while in El Salvador roughly half the services have been individual and the other half collective, they have managed to pool more companies in their collective actions than other Centers that record a higher rate of collective services. Again, differences in company culture, type of companies and also the initiative taken by the Center itself (it is of note that El Salvador has created a pilot service to encourage "company networking").

5. Costs of and income from the services provided

5.1 Variable costs of the services: EDC income and subsidies to *SMEs*

Table 7 displays a review of the costs of services performed via the hiring of outside consultants, as well as their breakdown between the portion subsidized by the IADB/MIF and the portion contributed directly by the companies to the Centers to cover total cost.

From the standpoint of the EDCs' revenues, the latter equals their income, a key element if they wish to meet project goals and *sustainability* in the future. Appendix 2 shows some of the economic concepts most often used in the management of EDC projects.

Table 7
Cost of services: IADB/MIF financing and EDC income (US \$)

Country	No. of semesters (1)	Outside Consultant Costs	IADB/MIF Financing		EDC income from the companies	
			Amount	% of total	Amount	% of total
Costa Rica	5 / 9	912,140	529,577	58.1	382,563	41.9
El Salvador	7 s 11	391,580	178,085	45.5	213,495	54.5
Argentina	3 / 8	844,566	552,361	65.4	292,205	34.6
- Rafaela EDC	3 / 8	501,897	304,127	60.6	197,770	39.4
- Mar del Plata EDC	3 / 8	187,821	130,907	69.7	56,914	30.3
- San Rafael EDC	3 / 8	154,848	117,327	75.8	37,521	24.2
Colombia (2)	3 / 6	705,838	482,514	68.4	223,324	31.6
- Bogotá EDC	2 / 6	137,816	90,345	65.6	47,471	34.4
- Medellín EDC	3 / 6	187,678	125,555	66.9	62,123	33.1
- Cali EDC	2 / 6	77,544	57,204	73.8	20,340	26.2
- Barranquilla EDC	3 / 6	218,273	147,712	67.7	70,561	32.3
- Bucaramanga EDC	2 / 6	84,527	61,698	73.0	22,829	27.0

(1) Semesters of operation of the EDC over the total scheduled, including extensions already authorized by the IADB.

(2) In Colombia the cost of outside consultants includes part of the funds brought in by the Centers themselves from direct consulting jobs tied into some of their services ("Pre-diagnosis" and "Comprehensive competitiveness studies"). Subsidized contributions here mean both what is directly financed from IADB/MIF funds and the portion provided indirectly by the EDC.

Table 7 indicates that:

- 1) The projects in Colombia and Argentina, about halfway through completion, are still heavily subsidized (68 and 65%) for the services rendered to companies. The logical assumption is that this rate will gradually decline as the project moves along until it is ultimately eliminated. In Costa Rica and El Salvador, now both into extensions, the average subsidization to date range from a high 58 % for the first country to low 45 % for El Salvador.
- 2) El Salvador stands out as the Center that received the most income from its companies in relative terms, followed by the EDC of Costa Rica. Among the Argentine Centers, Rafaela leads in billing – approximately 40 % -- while San Rafael falls short of 25 % of the total. Of the Colombian Centers, Bogotá, Medellín and Barranquilla managed to bill companies for more than 30 % of the total cost of their services.
- 3) Aid from the MIF to date has been over or close to half the cost of outside services, even in Costa Rica and El Salvador, where they are at the final stages of the project. It is very interesting to note how these two countries have maintained the same subsidy rate despite their stepped-up efforts along the past two semesters to earn more revenues. In other words, there seems to be some limit or concrete resistance preventing the Centers, at least for the duration of the projects, from tapping the existing and developed market of companies so as to earn enough to become *self-sustainable intermediaries*.
- 4) These same variables (subsidy and income paid by the companies) should be analyzed for the different types of services and different size companies. The EDCs often discuss the acceptable subvention ceiling per project and company because raising this ceiling

will generate a higher income from those companies of higher investment and payment capabilities. At the other extreme, smaller companies or those from especially deprived areas seem to find it harder to pay their share of the cost of services and need a higher subsidy.

- 5) The success of a EDC hinges on its institutional consolidation, on the management and skill of its technical staff, but also heavily on the financial support they can get over a period longer than the three/four years envisaged.
- 6) The institutional development of a Center goes hand-in-hand with the level of social entrepreneurship or company culture of the region where it is located. This attribute cannot be spontaneously generated but rather results from complex social, political, economic and financial relations that need time to mature. In this sense, a more developed "enterprise market" will allow a reduction (or even elimination) of the subsidies sooner than other more impoverished markets.

5.2 Degree of self-financing and the EDC sustainability fund

From the standpoint of results, the *self-reliance* of a Center can be measured from two angles³. First, from a narrower approach, as the ratio between its operating result or profits⁴ and the EDC's fixed spending. Second, from a more realistic perspective closer to the project's own philosophy, as the ratio between income from the billing of companies and fixed expenditures. This latter approach was taken in the discussion below. Table 8 was prepared from the data available to the authors on fixed or permanent costs of the Centers and reflects the behavior of this variable for each EDC (see appendices 3 and 4):

- 1) Of projects developed by the bigger countries, Argentina so far is nearly self-financing (with emphasis on the Rafaela EDC with over 50 %, contributing to raise the Argentine average considerably). Lagging far behind is the Colombian project, not quite one-fourth *self-reliant* yet, although there has been a strong improvement in 1998 (the Barranquilla and Medellín EDC on the high end, and Cali on the low end).
- 2) Of the smaller countries, Costa Rica is approaching 30 % while El Salvador is at 24 %, and the trend is toward *self-reliance* during the first semester of this year, a trend that started last year.
- 3) These results are tied in to the income of the Centers from services rendered to companies (Table 7). The greater the share of the cost of outside consultants covered by income from client companies the higher the likelihood of self-sustainability, provided that fixed expenditures remain within reasonable limits. This likelihood is also greater as the project nears its completion deadline. Likewise, it seems that larger markets (countries of bigger size and greater relative development) are more conducive to greater *self-reliance*.
- 4) If we look at the two smaller countries it is apparent that as they get near the end of the project, the Center improves its self-financing performance, be it because of a stricter selection of a smaller number of clients (El Salvador), or the attraction of larger clients (Costa Rica), or an increase in fees, or for embarking on new and more profitable activities.

³ There is no consensus in practice regarding the meaning of *sustainability* in terms of *enterprise development services /BDS* ("Guideline for Donor-Funded Interventions", April 1997).

⁴ This operating result (r) would equal a $r = v - (h + x + e)$, where "v" means Operating Volume (= income + variables MIF contributions), "h" are consultant fees, "x" the related expenses from the services provided by the EDC, and "e" means structural or operating expenses (fixed).

- 5) Another finding is the appreciable maturing along the learning curve achieved by the EDCs. Three or four years into the experiment and having adjusted their goals, the *sustainability* rate is around 50% in Costa Rica and 60% in El Salvador.

Table 8
Ratio of self-financing of the EDCs on June 30, 1998 (in %)
 (income/fixed expenses) (1)

Country	1995	1996	1997	1998 (30 June)	TOTAL
Costa Rica	-	5.1	42.3	48.8	29.0
El Salvador	9.9	19.0	19.0	59.9	23.9
Argentina	-	-	35.4	25.2	32.4
- Rafaela EDC	-	-	61.6	38.4	53.1
- Mar del Plata EDC	-	-	24.1	11.1	20.9
- San Rafael EDC	-	-	15.4	12.0	14.6
Colombia (2)	-	-	7.1	48.9	23.0
- Bogotá EDC	-	-	2.8	49.3	26.3
- Medellín EDC	-	-	3.6	60.8	24.9
- Cali EDC	-	-	6.4	15.6	9.7
- Barranquilla EDC	-	-	13.6	79.3	33.8
- Bucaramanga EDC	-	-	10.4	37.4	18.9

(1) This Table shows income received from billing outside consulting services provided to companies. The EDCs often have another source of income from the services they provide directly with their own consultants.

(2) Please note the remarks on Colombia in note 2 of Table 7.

Table 9 displays the results and forecasts for the *Sustainability or Reserve Fund* set up in each EDC as required in the original project. This Fund is fed by the income of the Centers and is an excellent measure of the operational status and/or the health of each EDC. In Costa Rica, they have exceeded half amount forecast. In the other countries they are still far from the target (in El Salvador the Center management is optimistic based on the billing of the past few). Rafaela, Argentina, has reached approximately 30 % of its forecast. However, the amounts channeled to this Fund apparently do not depend on a better or worse performance by the Center, but also to the issues discussed in previous paragraphs regarding the possible limitations of the self-sustainable model.

Table 9
Sustainability or Reserve Fund (on June 30, 1998)

Country	No. of se- mestres (1)	Forecast in the Project (US\$)	Actual figures		Estimated forecast (2)	
			Amount (US\$) % of total		Amount (US\$) % of total	
Costa Rica	5 s/ 9	913,658	(3) 504,632	55.2	904,632	99.0
El Salvador	7 / 11	1,195,200	213,495	17.9	933,080	78.1
Argentina	3 / 8	681,850	88,258	12.9	-	-
- Rafaela EDC	3 / 8	255,970	(4) 73,054	28.5	-	-
- Mar del Plata EDC	3 / 8	212,940	5,087	2.4	165,087	77.5
- San Rafael EDC	3 / 8	212,940	10,117	4.8	-	-
Colombia (5)	3 / 8	936,000	66,997	7.2	-	-

- (1) Semesters of operation of the EDC over the total scheduled, including extensions already authorized by the IADB.
- (2) Estimations made by Center management through the year 2000, with extensions authorized by the Bank. So far only Costa Rica and El Salvador fall into this category.
- (3) EDC figures for total income (income from outside hiring and internal services).
- (4) Computed according to the accrual accounting practice (issue of invoice when the service is performed).
- (5) The Fund is not yet established in Colombia. Thus, it was computed globally by applying the 30 % set by the project to the income figure ("the share covered by the companies").

6. Supply of consultant services

Table 10 shows the evolution of services by consultants who have joined the project in the different countries and Centers. The last column makes a distinction between consultants (individuals or firms) who in the life of the project have acted only once –"new" or different- and those who have worked more than once on different jobs.

The repeat rates are not high (there are no *companies in the hands of just a few consultants*). In Costa Rica 101 consultants have performed 304 jobs. In El Salvador they have had 72 different consultants. The absolute figures for these two countries can be positively assessed, particularly given the fact that both have made efforts in the last 18 months especially to create, boost and consolidate a local consulting market that was barely there previously because a weak demand barred any growth in supply. It is not easy to draw conclusions from the available results and information. More information is required to correlate between the new consultants providing services to *SMEs* and the profile of client companies, the type of service they render, the profile of the new consultants, and in particular their level of expertise and professional quality.

Setting up a service market is one of the missions of the EDC project. The key point on this subject is that articulating between supply and demand is equal to market intermediation, as the EDCs add value to the services rendered by outside consultants. EDCs have rosters of registered consultants and occasionally will issue "certifications" to local professionals, professors and businessmen working as consultants for *SMEs*. There is no evidence to the effect that such rosters have a positive or negative impact, except that in some countries the number of domestic consultants has grown substantially, replacing the international consultants originally hired by the Centers. Experience has shown that the selection of a consultant may occur on the initiative of each of the three players in the operation: the consultant himself who can sell his services through part of the subsidized cost (and if there

is no effective competition, fees might be artificially hiked); the demanding company that has identified a possible provider; or more often the EDC staff, who will then submit three names of prospective consultants for the company to make the final decision.

On the other hand, there are limitations to the development of local consultants, especially due to a lack of expertise and perhaps unproven quality. In addition, the companies often prefer the reputation and confidentiality offered by firms located in big cities. It is therefore arguable whether a EDC can do anything about the supply of such services when there is no market for all intents and purposes. The SIAPE in El Salvador, for example, has created a special program to train consultants.

Table 10
Number of new (different) outside consultants assisting the EDCs

Country	sem I 1995	sem II 1995	sem I 1996	sem II 1996	sem I 1997	sem II 1997	sem I 1998	TOTAL	
								New	new +repet.
Costa Rica	0	0	3	16	38	30	14	101	304
El Salvador	2	13	7	11	6	9	24	72	95
Argentina	-	-	-	-	13	25	19	57	70
- Rafaela EDC	-	-	-	-	5	9	8	22	30
- Mar del P. EDC	-	-	-	-	3	7	2	12	16
- San Rafael	-	-	-	-	5	9	9	23	24
Colombia (1)	-	-	-	-	na	na	na	na	Na

(1) According to the National Management, each EDC works with a group of 30 consultants at most.

7. Institutionalization of the project and the learning curve

With the start of the EDC project Latin American countries the IADB sought support to create or bolster a market system of *enterprise development services* in several countries of the area directly and necessarily involving certain local partners from the private sector. The idea therefore was to set up an institutional framework for the market sustained by non-governmental organizations with both the calling and, if at all possible, technical capabilities and prior experience in providing services to companies.

The IADB brought in a project model that would empower a private institutional framework of intermediation capable of stimulating the service markets focusing on companies. Several variations of this type of model exist in industrialized countries, but past experiments in this area in Latin America were scant or nonexistent.

In each of the four countries studied a different institutional pattern was found concerning the counterpart organizations involved in the projects, but the effort was to have trade unions and business associations with a strong presence among the *SMEs* of the country or region. Generally speaking, the data gathered on the projects so far points to some encouraging results, despite the numerous obstacles they have overcome and the risks involved. The experiment overall outlines a few general conclusions for the four operations:

- 1) A slow climb of a difficult learning curve. In nearly all instances the start up or takeoff took much longer than foreseen (between 6 and 18 months). Two factors may be connected to a smoother institutional development: on the one hand, a more widespread

use or preexisting habit of company partnerships (and of managing trade association support programs); on the other, a culture of institutional cooperation (and of settling disputes). Furthermore, the process of learning to perform a new function also required the selection and training of staff members; preparation of a first Business Plan reflecting the market priorities of each region; early actions involving company identification and marketing; adoption of the accounting, monitoring and hiring procedures required by the IADB, unfortunately complex; and absorption of the progress evaluations and tutorials, among the most important issues. Indeed, every agent involved in the project has had to do some learning: institutions, managers/staff, consultants, companies and certainly also the IADB/MIF. And there is still more to learn.

- 2) Generating trust is key for consolidation of an institutionalized service intermediating arrangement. The parties involved in these pilot programs must build a relationship of trust in the soundness of the project and of mutual trust so that they may in turn impart confidence to the market made up of companies demanding services and the consultants who will supply them. The friction generated by an early lack of trust have been one of the causes of delays in achieving results in the projects. This is true first at the local/regional level and filters up to the national level due to the local repercussions.
- 3) The engagement of institutions from different areas strengthens institutional framework in support of the EDCs. In fact, the participation of universities alongside foundations, trade associations and local government agencies tends to smooth any existing rivalry between entities of an identical nature. The IADB/MIF projects have exempted the government from the responsibility of actually carrying out the projects. However, experience has shown the considerable importance of having the support of local government, as well as working in tune with the policies and programs of the public sector on a national level. The “private bias” and “independent financing” of the project have stimulated these organizations in a positive direction and generated *externalities* useful for the Centers to meet the goals set and become sustainable in the future.
- 4) EDCs must be functionally independent from their sponsoring institutions to avoid transferring any existing disagreement between supporting institutions and to stimulate the pursuit of sustainability for their projects. In Argentina the EDCs were established as foundations, which has allowed them to develop the institutional potentials of each regional Center more easily.
- 5) The risks of institutional disputes with a negative impact on the EDCs in the four countries analyzed have come from three different sources: first of all, some participating institutions often would like to have the EDC as another branch of their activities or programs to support their members, and thus the project identity trademark is either lost or weakened. On occasion, the strategic management of the Boards of Directors turns into a *quasi-executive management*. Second, some partner entrepreneurial organizations disagree with the operation of the Center, and the reason for this might lie in a feeling of loss of leadership once old programs designed or managed by such entities in the past are transferred to the EDC. Third, certain political institutions that have taken part in the early plans for the project, usually because they had some kind of similar public initiative, may occasionally feel the project *owes them* something and give rise to institutional disputes.

III. LESSONS LEARNED AND RECOMMENDATIONS

Although two of the projects are still far from completion, a review of the results of all four projects analyzed here points to the general conclusion that they are effectively meeting their objective: to expand the market of services for *SMEs* by enlarging the coverage of

companies demanding such services, and to create an institutional framework increasingly better prepared to intermediate the hiring of services with growing financial sustainability.

Some of the most relevant lessons learned from this particular experiment are:

- 1) Slow start-up and achievement of results. Except when the projects are joined by broad past experience and highly dynamic institutions, the introduction of a new function to boost the market requires a slow start-up and take-off in the projects. It has not been uncommon to wait 12 to 24 months to begin getting the results expected early into the project. The taking on of managerial responsibility by the local entities; recruiting, training and organization of professional staffs; definition of a business strategy for each EDC in its own market and its development into a Business Plan; and the definition of administrative and supervisory procedures (including IADB/MIF supervision) are the main reasons for this slow start of the projects. A good project design adjusted to local needs and conditions, and the application of proper resources for start-up might speed up the take-off of new projects.
- 2) Apparently the projects may have a powerful impact on the collective target of SMEs, both due to their coverage in absolute number of companies assisted and because of how representative they are in the total universe of eligible companies. The sale strategies of each EDC should set coverage goals consistent with its medium- and long-term financial targets. To be able to work with more companies usually of a smaller size, more funds will be required to subsidize this activity of "enterprise extension" or top rely on income from the fees charged of larger companies. If the availability of soft funds is very limited, the scope and coverage of this type of action will also be limited. More detailed study of this kind of experiment is needed, since the four projects analyzed have received generous financing and targeted on somewhat limited pools of companies.
- 3) The issue of most appropriate type of service for intermediation by the EDCs is closely tied to the matter of sustainability. Again, each EDC project of must decide whether it will operate via an extensive approach to cover a large number of companies and intermediating relatively basic services; or whether it will emphasize the intermediation of higher value-added services, operating more intensively with only a part of its target market. On the other hand, the stronger or weaker emphasis place on the different services (strategic consulting, training, foreign trade, technology, quality, etc) is a function of the needs having the poorest coverage in each location and of the locally available capabilities.
- 4) The sustainability (self-financing) of the EDCs seems to have limitations when the project goals include enterprise dissemination and extension activities where the cost cannot be entirely borne by the companies, especially the smaller ones. Continuity of the EDCs' activities after the IADB/MIF financing is withdrawn will be helped by the Sustainability Funds, in part fed by the income generated during the life of the del project. However, this continuity in the long run seems possible only if either: a) they can secure new non-reimbursable financing from other donors or the government; or b) they can strike a proper balance between remunerated and highly profitable activities to finance other operations requiring a certain measure of subsidy. This second alternative is harder to accomplish successfully in the smaller countries with weaker service markets focusing on *SMEs*. The Centers should offer customized services to large companies for the benefits that may accrue: more billing elasticity, a tool for pooling small companies, and regional *standing/trust*. Likewise, programs involving collective actions generate economies of scale in the cost of service, promote cooperation among the companies and improves their ability to pay.

- 5) The EDCs have an impact on the supply of services to SMEs for the mere fact that it generates a commercially attractive demand. In addition, as they intermediate these services, they do play a role in quality control by evaluating the results in their reports to the companies. EDCs lend greater transparency to the consulting market by keeping a roster of the consultants who meet certain basic criteria. Nevertheless, it does not seem advisable to have them certify in advance the quality of the services rendered by these firms. The EDC's role as intermediary should bar them from providing those services themselves, in competition with the local market's consultants. However, the EDCs may become special consultants, particularly on basic activities such as enlisting suppliers or when there are no private competitors for a certain type of service.
- 6) The institutional framework of the EDCs has two main pillars. One comprises local and national non-governmental support institutions. Here, the contributions made by universities, foundations and business associations help build inter-institutional trust, which can be strengthened by the support of local government bodies. The other pillar is the organization of the EDC itself. It is crucial to ensure a professional, independent attitude and no interference in any dispute arising among the participating institutions that might jeopardize the life of the EDC. For this reason, and because it makes for a more professional company management, it is recommended that the EDCs be established as legal persons.

Conclusions: The experience gained from the first four EDC projects of the IADB/MIF is a valuable benchmark for other similar operations in Latin America and in other regions, particularly because it offers a special model of service "intermediation" in the market. This preliminary analysis of its results sheds some light on a number of issues for discussion. However, further studies must be performed to analyze these experiments at a more advanced stage as well as to have a more in-depth evaluation of some areas that have yet to be covered. Meanwhile, the *enterprise* institutional framework generated by the EDC projects can offer performance standards concerning the promotion and modernization of companies that can be duplicated and improved by other private or public groups, especially in view of the lack of experience and weakness of the promotion facilities for *SMEs* currently available in Latin America.

Final draft, December 20 1998.

APPENDIX 1

Profile of services of the Enterprise Development Centers

The basic profile of the services provided by the EDCs –considering the range offered by the 10 EDCs- has the following pattern:

i) Company modernization:

- i.1) Training:
- company and technological management; continuous improvement. – Strategic planning. Marketing and human resources.
 - *Safety, discipline and cleanliness.*
 - Specific: gender (businesswomen) and others according to the local industry features.
 - Consulting techniques for *SMEs* (consultant training).

- i.2) Technical assistance:
- Firm profile and *preliminary diagnosis*.
 - Improvement plan (or complete chart) of competitiveness.
 - Quality assurance (ISO 9000).
 - Good manufacturing practices.
 - Development of providers and subcontracting exchange.
 - Support to company management: organization, financial advice (company workshop).
 - Environmental protection (ISO 14000...)

ii) Computerization of the *SMEs*:

ii.1) Foreign trade promotion: assistance to trade missions (market, country and product profiles) and international fairs.

ii.2) Promotion of company networks (encouragement of *partnerships* between companies and consultant agents) and programs for meetings and alliances with foreign corporations (international cooperation).

iii) Industrial innovation and development (only for more advanced Centers):

iii.1) Product design and innovation.

iii.2) Transfer of technology: sectoral diagnosis and workshops.

iv) Other: Documentation and information (electronic), awards for excellence, consensus forums, strategic/sectoral seminars.

APPENDIX 2

Key economic management concepts for EDCs:

- Cost of service: in general (although this may vary from one EDC to another), the charge for a given service is estimated by a Center on the basis of a standard data sheet listing its different costs: consultant fees (whether hired or staff), communications, photocopies, printed materials, supplies, local office rental, administrative expenses (cafeteria...), promotion and advertising, etc.. “Related expenses” (also known as “intermediation costs”), or those resulting from the performance of an certain activity or service, are usually the amounts required to perform the job, minus consultant fees. They normally range around 8 to 12 % of the total service cost. In the more developed Centers, the cost statement contains an item called “management expenses” that is added to the “related costs”. This item included part of the spending on office and equipment, not fully adjusted as yet.
- Cofinancing matrix: considering the several variables (e.g. company size or strategic importance of the program/service to be provided according to EDC), it sets the ratio of subsidy over total service cost for a particular company. On joint projects this ratio is somewhat higher, around 50 to 70 % of the total.
- EDC income: the share payable by the companies for each service, billed by the EDC. It equals the difference between the cost of a service and the cofinancing subsidy.
- Hiring: the growing trend among EDCs is for them to do the hiring of outside consultants. The EDC signs a contract with the consultant for the total amount of the job, stipulating the terms and payment conditions. The contract does not specify whether the fee is payable from funds from the MIF or the company (as a rule, however, compensation for these services comes out of MIF funds). The EDC, therefore, operates as intermediary or *subcontractor* for the operation. There are no differences between services rendered directly by members of the Center’s staff and those performed under contract by outside consultants; the only distinction is that no contract for the former.

APPENDIX 3

Fixed expenses of a EDC

Table A-3 displays the Centers' aggregate structural costs broken down by country and total time lapsed per project, further specifying the source of funds (MIF and Local Entities). For the latter, there is also information on what percentage of the targets set forth in the Agreements has been met.

Table A-3
**Financing of spending on structure and operations (fixed expenses)
of EDCs through June 30, 1998**

Country	Number	MIF funds (US\$)	Funds from Local Entities		TOTAL (US\$)
	Semesters		Amount (US\$)	% of goal (1)	
Costa Rica	5 / 9	726,054	595,335	84.9	1,321,389
El Salvador	7 / 11	533,635	360,791	52.4	894,426
Argentina	3 / 8	694,151	336,604	11.6	1,030,755
Colombia	3 / 6	655,852	314,211	32.4	970,063

(1) Percentages compared to original project estimations (see Table 2, column 4) versus the rate of completion as of June 30, 1998. Note that the Agreements were signed on the following dates: Costa Rica, February 20, 1995 (3 years, extended through the year 2000); El Salvador, August 3, 1995 (3 years, extended through the year 2000); Argentina, June 15, 1995 (4 years); Colombia, October 19, 19 95 (3 years).

The figures show that the local counterpart funds in Costa Rica have been almost fully disbursed. At the other extreme, Argentina –the biggest local contributions in both absolute and relative terms – is lagging substantially behind, as is El Salvador, with just slightly over half its local obligations met and is already into a time extension vis-à-vis the original project schedule. Colombia has met nearly one-third of its local counterpart funding.

By June 30 of this year, for each US \$ spent on infrastructure, the IADB has contributed with US \$ 0.55 to the project in Costa Rica; 0.59 in El Salvador; 0.67 in Argentina, and 0.68 in Colombia.

APPENDIX 4

There are two ways of expressing the concept of *Ratio of Self-reliance* (RA):

1) The ratio between operating results or gross profits (r) and fixed expenses (e):

$$r = v - (h + x + e)$$

$$v = I + S$$

where: r = operating result
 v = operating volume
 h = outside consultant fees
 x = related expenses on services provided by the EDC
 e = structural expenses (fixed expenses)
 I = income from billing of EDC companies
 S = MIF subsidy or subvention

$$RA = \frac{r}{e} = \frac{I + S - h - x - e}{e} = \frac{I}{e} + \frac{S - h - x}{e} - 1$$

2) The ratio between income from EDC billing (I) of companies and fixed expenses (e):

$$RA = \frac{I}{e}$$

Therefore, the difference between the two concepts is of the following order of magnitude:

$$\frac{S - h - x}{e} - 1$$

For purposes of this paper, the second approach was taken in all figures computed.