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INDEX

- DAX Companies in 2019, Financial Performance and Their Women Quota on Supervisory and Management Boards1
Bettina Binder
- The City of São Paulo in the Context of a Sanctuary City from a Public Governance Perspective22
Maxwel Martins da Silva, Marcus Vinicius Moreira Zittei and Celso Machado Júnior
- New economic-business paradigm: The cryptocurrency and the tokenization of the economy. Monetary and financial revolution. The Blockchain, as the ultimate evolution of the accounting book54
José Daniel Barquero Cabrero and Mario Rioboo



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DAX Companies in 2019, Financial Performance and Their Women Quota on Supervisory and Management Boards

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ABSTRACT

Before the Covid-19 pandemic in German 30-DAX companies the women quota in supervisory boards and management boards increased compared to previous years. The COVID-19 pandemic led to a decrease in women's participation on the labour market, the working life of women being particularly affected. As of September 2020, the number of women in executive positions of the 30-DAX companies decreased, six women leaving the executive board in just one year (AllBright, 2020: 8). The present article investigates the situation of DAX companies with regard to their financial performance in 2019, their sectors of activity and women quota on their supervisory and management boards. It proposes the introduction of new key performance indicators (KPIs), such as the women process performance development (WPPD) index and it shows how such KPIs can be integrated in a company process in order to force a structural and systemic change.

KEYWORDS

DAX, women on supervisory boards, women on management boards, key performance indicators, gender quota, women process performance index.

1. Introduction and literature review

As of 2021, many parts of the world claim to be committed to non-discrimination and fighting inequality at all levels of society, yet does equality prevail? For instance, equality between women and men in employment, work and pay is explicitly enshrined in the article 23 of the Charter of Fundamental Rights of the European Union (EU), but there are still great differences in career opportunities and salary levels of men and women. Estonia, Latvia, Austria and Germany had in 2019 the highest gender pay gap (understood as “the percentage difference in average gross hourly earnings between men and women” – Statistisches Bundesamt, 2019), while the gender employment gap for the same year was 11.7%, meaning that less women than men are employed at EU level (European Commission, 2020a). The proportion of women in management positions is also much lower, with almost 6.9% of top companies’ CEOs as women (European Commission, 2020b: p. 4).

The situation is similar with the one from the United States of America (USA), where the gender employment gap in 2018 was 11% (England et al., 2020) and a woman earned on average 82 cents for every \$1 a man would earn (Bleiweis, 2020). Of all S&P 500 companies, only 6% of CEO positions were held by women (Catalyst, 2021).

The COVID-19 pandemic brought to the fore that countries led by women were more successful in dealing with the challenges of the crisis than countries led by men. One such example is New Zealand’s prime minister, Jacinda Ardern. She led her country well and calmly through the pandemic by acting early and following a clear strategy. Germany’s chancellor Angela Merkel has been also often praised for her crisis management skills (see for instance Boden, 2020) and Germany has been “traditionally” the largest economy of the EU, in 2019 for instance generating almost a quarter (24.7%) of the gross domestic product (GDP) of the entire EU (Eurostat, 2020). This requires a strong management at country’s level and strong companies with visionary leadership. In this context, the current article looks at the largest German companies in terms of market capitalization, which are part of the DAX 30 blue chip index, DAX being “the undisputed benchmark for German stocks and a reliable barometer for Europe’s largest economy” (Quontigo, 2021). The focus is laid on the management structures of these companies in light of gender diversity. In the past, women were rather a rarity in management positions. In recent years, however, this has changed, a determinant factor being the introduction of a women's quota for the supervisory boards. Moreover, women started to be appointed also

for executive positions, where no quota applies. Jennifer Morgan became the first chief executive officer (CEO) of a DAX company in October 2019 (Weibler and Endres, 2019) and she is not the only female CEO of a German company: Nicola Leibinger-Kammüller, is for instance CEO of Trumpf (Kujacinski, 2021). In the future, more and more women are expected to hold these positions. This raises the question of whether women's presence in management positions also have a positive influence on the success of the company in business. The goal of this article is firstly therefore to offer an overview of the management boards, both executive and supervisory, of DAX 30 companies in 2019. Secondly, we aim to investigate whether there is a correlation between the earnings before taxes (EBT), as well as the earnings before interest and taxes (EBIT) as important key performance indicators (KPIs) of a company and the proportion of women in management positions. The following hypotheses are formulated and will be tackled in the following sections:

H1: Companies with a higher gender quota in supervisory boards are more successful and achieve a higher EBIT or EBT.

H2: Companies with a higher gender quota in management boards are more successful and achieve a higher EBIT or EBT.

The paper draws on existing literature in the field of key performance indicators (KPIs), diversity management, women quota and supervisory boards and it is structured as follows: in a first step, the DAX-30 companies are described on the basis of the annual reports. As publicly traded companies in Germany have a two-tier board structure, this dual board structure will be described and the women quota for both the management and the supervisory board will be calculated and presented. Furthermore, a correlation analysis is conducted in order to see, whether there is a relationship between the number of women on supervisory boards and management boards and the financial performance of the companies under scrutiny. Considering however that women presence in companies in general and especially on companies' boards is still low, the author of this paper proposes the introduction of a new metrics, called the "women process performance management" (WPPM) index, which will be shortly described in the methodology part. The last sections are dedicated to the findings regarding the DAX companies in 2019, the implementation of the WPPM index as part of a company's process is thoroughly described, and finally the limitations of this study as well as suggestions for future research are provided.

2. Methodology

The raw data necessary to conduct this study was collected from the annual reports of the DAX companies from 2019. For completeness sake, the companies' overview (see Tables 1 and 2) includes also Wirecard, a company that entered the DAX blue-chip market index in 2018 and began insolvency proceedings in June 2020, in what is known as “Germany’s biggest post-war scandal” (Reuters, 2021). Due to the unreliability of the financial data from Wirecard’s balance sheets, this company was excluded from our analysis.

“Born” in 1988, DAX with its 30 companies currently represents “approximately 80 percent of the aggregate market capitalisation of listed German stock corporations” (Deutsche Börse, 2021). Some of the companies first included in the index in 1988 were still constituents of the index in 2019: e.g. Allianz, BASF, Bayer, Henkel, etc. This speaks for the stability and consistency in terms of economic performance of these companies, and for the reliability of this index in depicting the German economy in general. All DAX companies must publish annually their accounts and these include information also about their supervisory and management boards and the compliance with the German Corporate Governance Codex. A two-tier management model, in opposition to the Anglo-Saxon one-tier model, characterizes the corporate governance practice in Germany. The German supervisory board (“Aufsichtsrat”), as the name implies, has an oversight role of the management actions and it shows the importance of stakeholders such as employees, state unions, etc. The supervisory boards in Germany are generally large (20 members for companies having over 2,000 employees) and are elected by the employees and by the shareholders (10 members each) (ICGN, n.a.).

Our approach was to first collect both financial data and information about the composition of the boards of DAX companies, which will be presented in the following two tables. The revenue, the EBT and EBIT have been selected as some of the most common KPIs used by companies. For instance, as publicly listed companies all DAX firms must report their revenues. EBIT as a profit metric takes into consideration depreciation and amortization (but not interests and taxes) and it is a practical KPI for comparing companies from the same sector (Binder and Högsdal, 2017), an aspect that will be dealt with in this article. The EBT is an additional and complementary KPI to the EBIT, as the earnings of a company are influenced also by the interests the company has to pay to finance its capital structure (Binder and Högsdal, 2017). We also calculated the women quota for each of the DAX companies, for both the executive and the supervisory boards. In order to measure

the strength of the relationship between the women quota of this companies and their financial performance as measured by the EBIT or EBT we conducted a correlation analysis.

As already mentioned, the author proposes the introduction of a KPI called “women process performance management” (WPPM) index, which can be calculated as following:

$$WPPM = \frac{Customer\ Importance \times Customer\ Satisfaction}{Process\ Cost\ Rate\ (Women\ Capacities) \div Benchmark\ Cost\ Rate\ (Women\ Capacities)}$$

This KPI should increase over a long strategic planning period. A better position in comparison with the main benchmark competitor should be achieved for instance by improving the process cost rate via better recruitment of qualified women or improving customer experience. The WPPM index should be measured at least once quarterly within the following overarching company process:

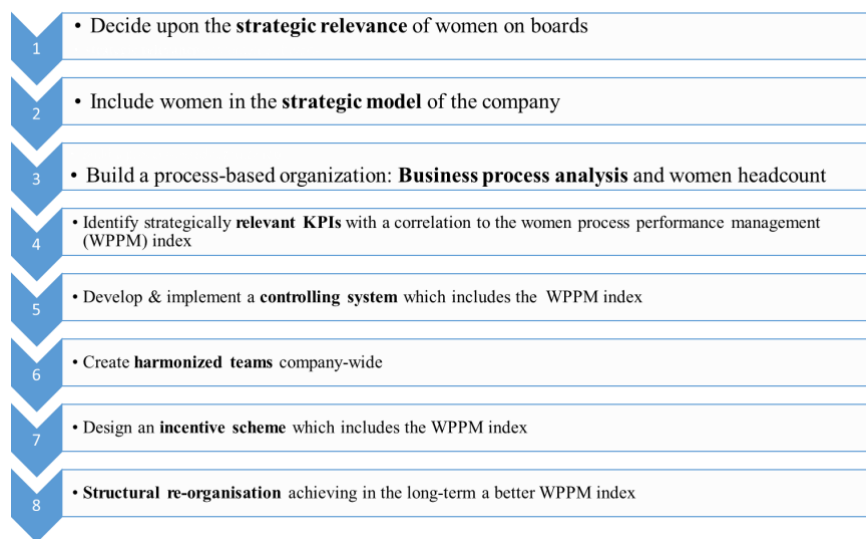


Figure 1: The eight-step company process aimed at increasing women presence at all levels of a company (own creation).

The process visualised in Figure 1 will be thoroughly described in a subsequent section. The following section proceeds with the overview of the DAX companies and some of the computed calculations are also included. The results of the correlation analysis and the testing of the hypotheses will be presented.

3. Findings – DAX 30 companies in 2019 and women presence on boards

Table 1 and Table 2 provide a brief overview of the index composition of DAX, as well as key financial information in the form of revenues, EBIT, etc., workforce and women presence on the boards of these companies.

Nr.	Company	Sector	Revenue in mEUR	EBIT in mEUR	EBT in mEUR	EBT/Revenue	Employees	EBT/ Employees in €
1	Adidas	Fashion, Sport	23,640	2,660	2,558	11%	59,533	42,968
2	Allianz	Insurance	142,369	11,855	11,077	8%	147,268	75,217
3	BASF	Chemical Industry	59,316	4,052	3,302	6%	117,628	28,072
4	Bayer	Pharmaceutical Industry	43,545	4,189	2,880	7%	106,092	27,146
5	Beiersdorf	Chemical Industry	7,653	1,032	1,037	14%	20,654	50,208
6	BMW ST	Automotive	104,210	7,411	7,118	7%	133,778	53,208
7	Continental	Automotive	44,478	- 268	- 589	-1%	241,458	- 2,439
8	Covestro	Chemical Industry	12,412	852	761	6%	17,201	44,242
9	Daimler	Automotive	172,745	4,329	3,830	2%	298,655	12,824
10	Deutsche Bank	Financial	23,165	- 2,634	- 2,634	-11%	87,597	- 30,070
11	Deutsche Börse	Financial	3,054	1,452	1,398	46%	6,775	206,347
12	Deutsche Post	Logistics	63,341	4,128	3,474	5%	546,924	6,352
13	Deutsche Telekom	Telecommunication	80,531	9,457	7,260	9%	210,533	34,484
14	E.ON	Energy provider	41,484	1,409	797	2%	78,948	10,095
15	Fresenius	Pharmaceutical Industry	35,409	4,631	3,912	11%	294,134	13,300
16	Fresenius Medical Care	Pharmaceutical Industry	17,477	2,270	1,840	11%	120,659	15,250
17	Heidelberg Cement	Construction supplier	18,851	2,008	1,633	9%	55,047	29,666
18	Henkel VZ	Chemical Industry	20,114	2,899	2,811	14%	52,450	53,594
19	Infineon	Electrical industry	8,029	1,161	1,083	13%	41,418	26,148
20	Linde plc	Mechanical Engineering	28,228	2,933	2,285	8%	79,886	28,603
21	Lufthansa	Aerospace	36,424	1,689	1,860	5%	138,353	13,444
22	Merck	Pharmaceutical Industry	16,152	2,120	1,735	11%	57,036	30,419
23	MTU Aero Engines	Aerospace	4,628	706	667	14%	10,660	62,570
24	Münchener Rück	Insurance	51,457	4,004	3,190	6%	39,662	80,430
25	RWE	Energy provider	13,125	1,267	- 752	-6%	19,792	- 37,995
26	SAP	Software	27,553	4,473	4,596	17%	100,330	45,809
27	Siemens	Healthcare, Energy	86,849	7,087	5,646	7%	383,000	14,742
28	Volkswagen VZ	Automotive	252,632	16,960	18,356	7%	671,205	27,348
29	Vonovia	Real Estate Industry	3,092	3,524	3,139	102%	10,345	303,432
30	Wirecard	Financial						

Table 1. DAX companies as of 2019 and their financial performance as measured by EBIT and EBT. Source: Data collected from the annual records of the companies.

Nr.	Company	Sector	Number of Executive Board Members	Women on the Executive Board	Women's quota in Executive Board	Number of Supervisory Board Members	Women on the Supervisory Board	Woman's quota in Supervisory Board
1	Adidas	Fashion, Sport	6	1	17%	16	5	31%
2	Allianz	Insurance	10	2	20%	12	4	33%
3	BASF	Chemical Industry	7	1	14%	12	4	33%
4	Bayer	Pharmaceutical Industry	7	-	0%	20	7	35%
5	Beiersdorf	Chemical Industry	8	1	13%	12	4	33%
6	BMW ST	Automotive	7	1	14%	20	7	35%
7	Continental	Automotive	7	1	14%	20	6	30%
8	Covestro	Chemical Industry	4	1	25%	12	4	33%
9	Daimler	Automotive	8	2	25%	20	6	30%
10	Deutsche Bank	Financial	7	-	0%	20	7	35%
11	Deutsche Börse	Financial	6	1	17%	16	6	38%
12	Deutsche Post	Logistics	8	1	13%	20	7	35%
13	Deutsche Telekom	Telecommunication	9	2	22%	20	8	40%
14	E.ON	Energy provider	5	-	0%	20	6	30%
15	Fresenius	Pharmaceutical Industry	7	1	14%	12	4	33%
16	Fresenius Medical Care	Pharmaceutical Industry	7	2	29%	6	2	33%
17	Heidelberg Cement	Construction supplier	8	-	0%	12	5	42%
18	Henkel VZ	Chemical Industry	6	1	17%	16	6	38%
19	Infineon	Electrical industry	4	-	0%	16	6	38%
20	Linde plc	Mechanical Engineering	7	1	14%	12	3	25%
21	Lufthansa	Aerospace	6	1	17%	20	6	30%
22	Merck	Pharmaceutical Industry	5	2	40%	16	5	31%
23	MTU Aero Engines	Aerospace	4	-	0%	12	4	33%
24	Münchener Rück	Insurance	9	1	11%	20	9	45%
25	RWE	Energy provider	2	-	0%	20	6	30%
26	SAP	Software	8	2	25%	18	9	50%
27	Siemens	Healthcare, Energy	8	2	25%	20	7	35%
28	Volkswagen VZ	Automotive	8	1	13%	20	6	30%
29	Vonovia	Real Estate Industry	4	1	25%	12	4	33%
30	Wirecard	Financial						

Table 2. DAX companies as of 2019 and the composition of the management and supervisory boards. Source: Data collected from the annual records of the companies.

A quick look at Table 1 informs the reader that the company with the highest revenue, the highest EBT and the highest EBIT of all DAX companies in 2019 was incontestably Volkswagen. The situation is different though if one looks at the women presence on the executive and supervisory boards of Volkswagen.

In the following, we deepen the analysis of DAX companies aiming to offer an in-depth image of DAX index in 2019 and to test at the same time the hypothesis of the study. Table 3 for instance gives an overview of DAX most important sectors of activity in alphabetical order.

Nr.	Sector	Revenue in mEUR	EBIT in mEUR	EBT in mEUR	EBT/ Revenue	Employees	EBT/ Employees in k€
1	Aerospace	41,052	2,395	2,527	6%	149,013	16,958
2	Automotive	574,065	28,432	28,715	5%	1,345,096	21,348
3	Chemical Industry	99,495	8,835	7,911	8%	207,933	38,046
4	Energy provider	54,609	2,676	45	0%	98,740	456
5	Financial	26,219	- 1,182	- 1,236	-5%	94,372	- 13,097
6	Insurance	193,826	15,859	14,267	7%	186,930	76,323
7	Pharmaceutical Industry	112,583	13,210	10,367	9%	577,921	17,938
8	Others	340,114	37,431	31,674	9%	1,487,016	21,300

Table 3. Sectors of activity of the DAX companies in 2019. Source: Data collected from the annual records of the companies; own representation.

As it can be seen, the automotive sector is the most important one at DAX level, not only in financial terms (Revenue, EBIT, EBT), but also in terms of workforce. In just three automotive companies, which were part of DAX 30 in 2019, there were some 1,345,096 employees working. This only confirms once again that “the German automotive industry is a key industry for employment [and] growth ...” (ifo Institute, 2021). The insurance sector, as well as the pharmaceutical and the chemical industry are also important pillars of the German economy. Under the label “Others”, where 8 companies are put together, we included those sectors which contained only one company in DAX 30: for instance, Deutsche Post is the only logistics company member of the DAX 30 in 2019, Vonovia is the only company active in the real estate sector and member of DAX 30, etc. It is worth pointing out that these 8 companies together (Heidelberg Cement, Infineon, Adidas, Siemens, Deutsche Post, Linde plc, Vonovia, SAP and Deutsche Telekom) have a high EBIT and EBT and also a high number of employees.

In order to test the first hypothesis (H1: Companies with a higher gender quota in supervisory boards are more successful and achieve a higher EBIT or EBT), two steps are necessary. The women quota for the supervisory boards should be determined and the

EBIT or EBT of the DAX 30 companies should be examined. Figure 2 shows a top ten ranking of the DAX companies with regard to the KPI EBT per employee.

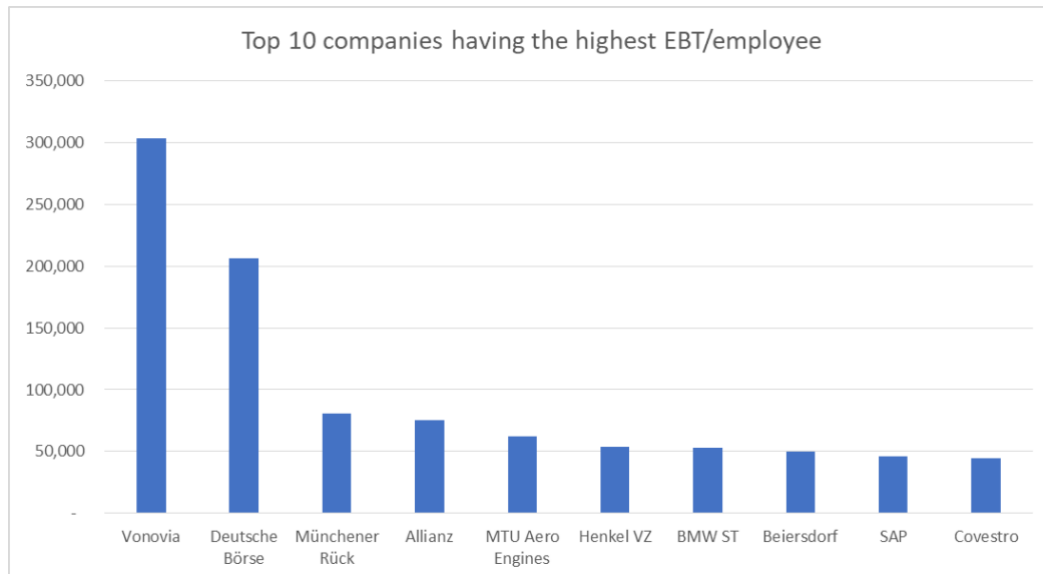


Figure 2. Top 10 DAX companies having the highest EBT/employee in 2019. Source: Data collected from the annual records of the companies; own representation.

On the first place in 2019 was Vonovia (active in the real estate sector) with an EBT/employee of €303,432. Deutsche Börse with €206,347 and Münchener Rück with € 80,430 follow Vonovia in the 2019 EBT/employee ranking.

When considering hypothesis 1 (H1: Companies with a higher gender quota in supervisory boards are more successful and achieve a higher EBIT or EBT) it could be observed that a higher gender quota (see Figure 3) is not explicitly necessary for achieving a higher EBT or EBIT.

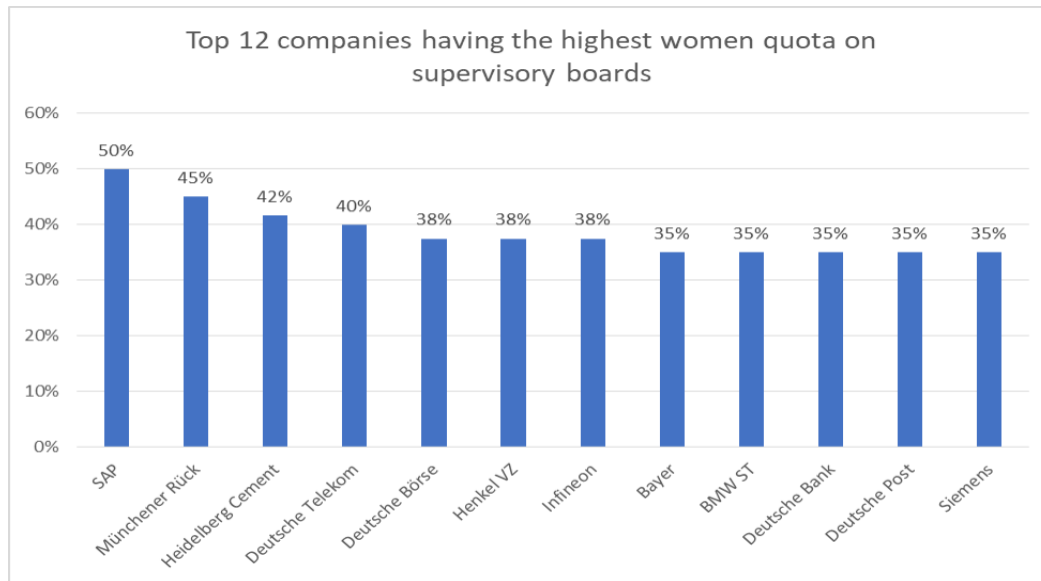


Figure 3: Top 12 companies having the highest women quota on supervisory boards. Source: Data collected from the annual records of the companies; own representation.

However, companies with a high women quota have nevertheless a high EBT or EBIT as well. This can be stated also for hypothesis 2 (H2: Companies with a higher gender quota in management boards are more successful and achieve a higher EBIT or EBT).

Some explanations are necessary for a better understanding of the women quota as presented in Figure 3. First, as it can be seen, DAX companies have a high women presence on their supervisory boards, one actually surpassing the legal regulations. Already in 2011 Germany's largest listed companies committed voluntarily to increase female representation by setting self-imposed targets. As the progress was slow, in May 2015 "The Equal Participation of Women and Men in Leadership Positions" law was passed, requiring that publicly traded companies should achieve starting with 2016 a women quota of 30 percent in supervisory boards (BMFSFJ, 2017). Therefore, Figure 3 shows that many of the DAX companies have over 30 percent women on their supervisory board, SAP reaching gender parity. Second, connecting Figure 2 and Figure 3¹ one can notice that while Vonovia had the highest EBT/employee, it is not the company with the highest women quota (it has a quota of 33 percent). Deutsche Börse has the second highest EBT/employee and a relatively high women quota of 38 percent, being one of the top 12

¹ Please note that the difference in the number of companies included in the rankings from Figure 2 and Figure 3 are due to the fact that no less than five companies have the same women quota of 35 percent. This difference can be observed also in other rankings included in this article.

companies with the highest women quota in supervisory boards. SAP has actually the highest women quota of all the DAX-30 companies, but it doesn't have the highest EBT/employee. Yet, there is an overlap between the two figures with regard to the companies included in the ranking, which can lead towards the idea that the first hypothesis could be supported.

In order to discuss the second hypothesis (Companies with a higher gender quota in management boards are more successful and achieve a higher EBIT or EBT) we also ranked the companies based on the women quota on their management board (See Figure 4). It has to be noted though that there is no mandatory quota for gender diversity on the management boards in Germany. However, whenever a woman is appointed CEO of a DAX company, as it happened in the case of Jennifer Morgan in 2019 (Co-CEO at SAP), there is quite a stir in the media and many hope for a sustainable change with regard to women presence also on the management boards. Yet, after only seven months, Morgan left her position, some seeing the COVID 19 pandemic as one of the reasons for her retreat (Saigol, 2020).

As of 2019 Merck had the highest women quota on its management board (40 percent) followed by Fresenius Medical Care (29 percent) and Covestro (25 percent). Merck however is not among the companies having a high EBT/employee ratio. Other companies such as Vonovia, Deutsche Börse, Henkel, Covestro, etc. are part of both rankings (the highest EBT/employee and the highest women quota on the management board) which can lead towards the idea that also the second hypothesis could be supported.

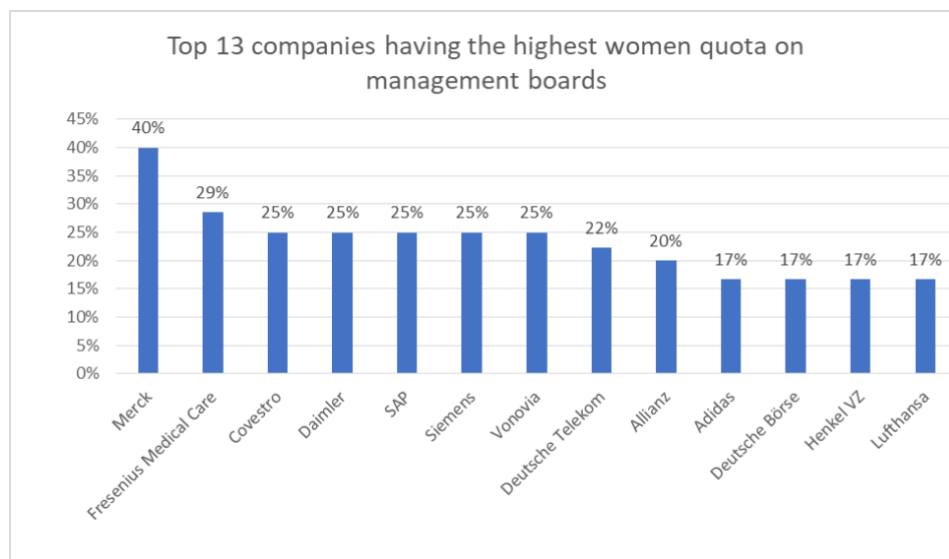


Figure 4: Top 13 companies having the highest women quota on management boards. Source: Data collected from the annual records of the companies; own representation.

In the following we look for further evidence by deepening the analysis with data at sector level. The reason for considering women presence on the boards of companies active in different sectors is the fact that there is a gender division also across sectors of activity, also known as sector segregation (Goldstein, Martinez and Papineni, 2019). For instance the automotive and construction sectors are regarded as typically male-dominated, while sectors such as health care or education are rather dominated by women. In Germany in 2020 the sectors where the workforce is mainly female-dominated were the education, social professions and medical and health care sectors (iwd, 2021). According to a 2020 OECD report women not only that are under-represented in the boardrooms across all sectors, in the technology and energy sectors, the percentage of women on boards is particularly low. The following two figures show the women quota in the sectors represented by the DAX companies in 2019.

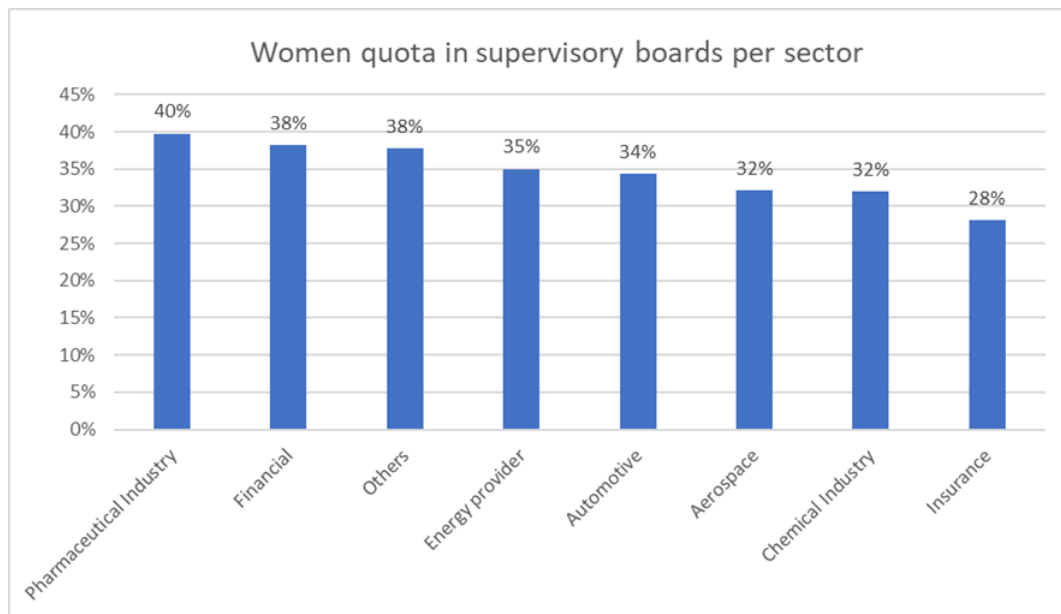


Figure 5. Women quota in supervisory boards per sector. Source: Data collected from the annual records of the companies; own representation.

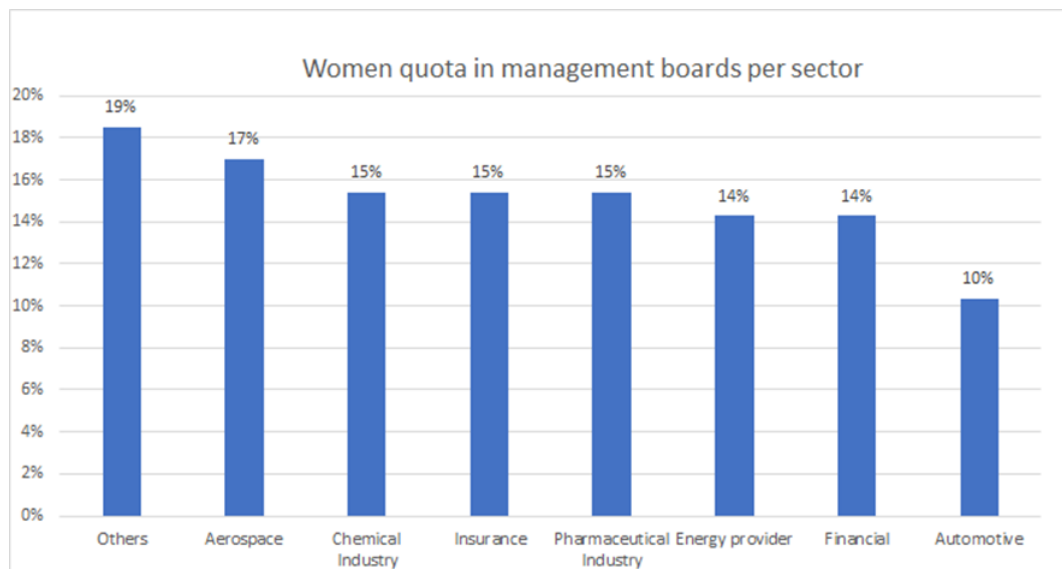


Figure 6: Women quota in management boards per sector. Source: Data collected from the annual records of the companies; own representation.

As expected the women quota in the supervisory boards is much higher than that in the management boards across all sectors and as already stated the most probable explanation is the German legislation, which imposes a quota for the supervisory boards, but not for the management boards. Moreover, though the pharmaceutical, the financial and the energy sectors have a high women quota on the supervisory boards, on the management boards these sectors are no longer the “champions” (the category “Others” due to its heterogeneity is not discussed here). It is the aerospace sector, which is on the first place in terms of women quota, which is surprising if one considers its rather technical character. The automotive sector in turn reflects its male-dominated aspect also on its management board with a women quota of only 10 percent.

Finally, the correlation analysis, which was run for the entire index, suggests a rather weak relationship between the financial performance of companies and the women quota as Table 3 indicates.

Correlation (between -1 and 1)	Management Board		Supervisory Board		In total	
1 = perfect Correlation		Women %		Women %		Women %
0 = no Correlation	EBT/Revenue	0.279	EBT/Revenue	0.108	EBT/Revenue	0.250
-1 = perfect negative Correlation	EBT/Employees	0.261	EBT/Employees	0.178	EBT/Employees	0.267

Table 3: Correlation results between financial performance and women quota for the entire DAX index as of 2019. Source: Data collected from the annual records of the companies; own representation.

A weak positive correlation of the women quota and the EBT/employee can be seen for the supervisory boards ($r=0,178$) and a slightly better correlation (but still weak) can be seen for the management boards ($r=0,261$).

As more and more voices from the political realm and various economic organizations emphasize the importance of increasing women's presence in the workforce and also their presence above the so-called "glass ceiling", the following section introduces an overarching company process containing eight steps and the WPPM index. The aim is to help companies in taking concrete measure and therefore to benefit from a diverse workforce at all levels.

4. A company process in eight steps to increase women presence

Keeping in mind the visual representation of the process as presented in Figure 1, in the following we describe each step and discuss its relevance.

4.1. Strategic relevance

Many companies nowadays are interested in integrating more women in management or supervisory boards not just in countries where legislation imposes a women quota but also in countries where it is (still) optionally. Therefore, achieving a women quota is strategically relevant for most companies. Consequently, companies search for an approach and a course of action to pursue a better integration of women into their boards and their business in general, but sometimes it is not clear which path would be the most appropriate. For instance in Germany, listed companies must achieve a gender quota of 30% on their supervisory boards. For managers this means that they need to search for a solution or an implementation concept. The KPI "women quota" must therefore be integrated not just in the vision and mission statements of the companies, but also at an early stage in the strategic planning process. In the tactical planning phase, women should appear in the organization charts by name, to show that the realization of a women quota of 30 % is not just a faraway dream, but the company is actually promoting women and is envisioning a pool of women talents. In the operating planning and budgeting process more women should be hired as responsible line managers who report planning figures for their departments. Moreover, the KPI women quota should be included into strategic performance management tools such as the Balanced Scorecard (BSC). Women quota could be for instance included in the internal perspective of the BSC and increase in this way the focus on this critical area.

4.2. Strategic model

A strategic model for a period of five to ten years should be developed and evaluated. Such a model could contain several strategic KPIs such as the EBT, the women quota, early warning indicators, scenario targets including worst case, best case and trend scenarios. Using the scenario technique or other strategic instruments, the KPI women quota can be emphasized. The slogan “What gets measured gets done” shows how relevant it is to integrate the women quota in scenarios e.g. as prognosis for the next ten years. The KPI women quota could be split into ‘smaller’ indicators such as the target for female recruitments in the overall workforce, the number of women in middle management, the number of women in the management board, the number of women in the supervisory boards, etc. The business model, together with the vision and the mission of a company, should offer a comprehensive and unified image in terms of goals and messages. If the company addresses mainly female customers, the company would surely benefit from emphasizing the importance played by women leadership and the commitment towards achieving a high women quota. Woman quota can be related also to other sustainability goals of the company. Whether it is self-commitment or law compliance, increasing the number of women at the top of companies should be clearly communicated and lived throughout the company. Moreover, a women quota can be a goal also at departmental level. The business model can stipulate that only those managers are eligible for a performance bonus (e.g. 20 percent) if their department or team have a women quota higher than 30 percent. This could be a consistent business model to increase the women quota in the long term also at management level.

4.3. Business process analysis

In the third step, a business process analysis has to be conducted. First, activities, sub-processes and main processes of different departments or of the company as a whole should be identified. This business process analysis can be conducted using anonymous interviews about the total headcounts in the cost centers. To know how many women headcounts work in these processes, the interviewers should keep a separate recording of male and female headcounts. The headcount data remains anonymous, but male and female capacities are distinguished for calculating the women quota for each individual activity, sub-process and main process. Second, cost drivers of the processes such as number of orders, number of male or female recruitments, number of women in management positions, etc. are identified. Third, the total process costs should be

calculated for the main processes, for the sub-processes and finally for the activities. If one considers some twenty main processes in a company, it seems easy to calculate the process costs that should be finally divided into male and female capacities. For the hundreds of sub-processes, the process calculation of the total process costs split into female and male costs could be more time consuming. The total process costs calculation for the final thousands of activities is still necessary because the activities are allocated at the end to sub-processes and main processes differentiated in male and female process costs. Fourth, the process cost rate must be calculated so that finally it can be said what are the process costs for one order execution, etc. The process cost rate divided into male and female costs can identify processes e.g. with a high performance and show if these processes have a high women quota too. Fifth, the allocation of activities to sub-processes and finally to main processes can show the male process costs and the female process costs e.g. for one order. In companies with a low women quota, the female process costs over all activities seem low compared to the male process costs. At the latest at this point it should be clear that the women quota must be increased by starting to recruit more women into management and supervisory boards and to the departments and teams too. The process cost rates can be implemented into a product calculation instead of the burden rates used for the indirect areas. Process cost rates e.g. for the sales process costs, the maintenance process costs or the security process costs are always interesting when they are integrated in a product calculation. Divided into male and female process costs, additional information becomes available.

4.4. Relevant KPIs

For increasing the women quota, it is necessary to measure a KPI, which we call “women process performance management (WPPM) index”. This KPI should increase over a long strategic planning period and has the following formula:

$$WPPM = \frac{Customer\ Importance \times Customer\ Satisfaction}{Process\ Cost\ Rate\ (Women\ Capacities) \div Benchmark\ Cost\ Rate\ (Women\ Capacities)}$$

With the help of a customer survey, two KPIs are to be measured: the customer importance related to one process and the customer satisfaction attributed to it. It is important to measure both these KPIs, because the customer should be able to evaluate whether e.g. an order process is important for him or her and whether he or she is satisfied with the order

fulfillment in time. The customer survey should be accompanied by a business process analysis as described above. The result of this business process analysis should be the process cost rate, this time calculated considering the women capacities. By comparing this process cost rate based on women capacities with a benchmark process cost rate of women capacities of another company, a quotient can be built and a final equivalence number can be calculated.

If the women WPPM index is higher than 1, the strategic performance and value creation is good. If the index is lower than 1, then the qualitative and quantitative premises should be optimized. A better position in comparison with the main benchmark competitor should be achieved for instance by improving the process cost rate via better recruitment of qualified women or improving customer experience.

4.5. Controlling system

The controlling system consists of the planning process, the cost accounting process and the reporting process. The WPPM index can be integrated into a planning system. This means that the yearly budgeting process includes the women quota and the WPPM index and incorporates these two KPIs for the next fiscal year for each department of an enterprise.

In the cost and managerial accounting process cost types, cost centers and cost objects are identified. These cost elements are planned including additional KPIs like the women quota and the WPPM index for each cost center. For example, the cost center, order management must plan the costs, the relevant budget with the number of orders, the women quota as target for this cost center and the WPPM index. To calculate the WPPM index it must be ensured that the cost center is big enough and that customer contact (of internal or external customers) is fostered. Additionally when a process cost rate and a benchmark cost were identified, the WPPM index can be calculated and planned.

The relevant KPIs should be integrated in the monthly reporting process. A special chapter for important qualitative KPIs in each end month report ensures that the women quota and the women PPM index are continuously measured and a development trend can be registered. This is important when these two figures are also considered in determining the management variable remuneration.

4.6. Harmonized teams

Once processes are identified and KPIs are defined in a controlling system, the employees should be aware of them and consider them in their daily work. Harmonized teams where women and men work together often achieve better results and the defined KPIs like EBT, cost target and women quota are achieved easier. When women work together with several male team members, extraordinary ideas, remarkable product and process innovations take place and the team comes to unique results. In most cases, critical questions outside specifications are raised by women, and discussed together in the mixed teams.

To design a harmonized team it must be clear that the management supports harmonized teams formed by both men and women. Starting from the top management level, women should work together with men in management boards and supervisory boards but also at lower management level and throughout the entire company. Moreover, it is recommendable to integrate women into the structural organization and to show women and men by name in the company organigram. In process-oriented organizations, a harmonized team can be linked to a project or a process and should be led by a process responsible. The more process responsible are female, the better the KPI women quota becomes. Furthermore, the number of women in harmonized teams can be measured project based (short term) or process bases (in the long run).

4.7. Incentive scheme

External factors can influence the number of women in companies. For example, more lectures can be held at universities to attract more academic women, there should be more job ads looking for the best women in the media or more transparent information in the year-end reports about the number of women or the women quota in management or supervisory boards.

Internally there should be a consistent target setting process supported for instance by Management by Objectives (MBO) meetings. Managers and employees should meet at least twice a year to discuss about the already achieved personal targets and about the future expectations until end of the year. It is not enough to discuss only KPIs like the achieved profit, contribution margin or the sales figures. Additionally, the women quota, the WPPM index should be measured and based on target achievement, a variable part of the annual remuneration can be introduced.

4.8. Structural re-organization

The result of a process-based analysis should be to obtain a better effectivity and a higher efficiency company-wide. The KPIs women quota and WPPM index can be measured based on processes, at team level, at departmental level and for the entire enterprise. Process optimization teams (POTs) can be created to design the actual order process, the ideal process flow and the optimized standard process cycle. It should be ensured that an optimized standard process includes the KPIs women quota and the WPPM index.

5. Discussion of results and conclusion

This article offers a thorough analysis of the DAX index and its companies in 2019 by presenting data about the financial performance of these companies, sectors of activity and the women presence on supervisory and management boards. The existence of a mandatory women quota for the supervisory boards since 2016 led to an increase of women presence at the top of these companies, some of them even surpassing the legal requirements. However, in comparison with the situation on the supervisory boards, the CEO positions continue to be dominated by men, irrespective of the sector of activity.

Though no correlation could be found between a high number of women on the board of a company and its financial performance, this result does not minimize the importance of a diverse workforce or that of a diverse company board. The presence of women on boards can be manifested not only by positively influencing a financial KPI, but also by bringing a change in the leadership style or in the strategic orientation of a company.

The sample of this study can be regarded as small, but the aim was to look at a representative index of one of the most important economies in Europe and in the world: Germany. At the same time having a larger sample might bring forward other problems, such as analysing companies from different regions and different countries, which might have different legislations and different corporate structures and cultures. On the other hand, the results can be enhanced by extending the analysis over a longer period of time. If for instance the research would be conducted for data spanning over a decade or more, the results would gain in significance.

One major contribution of this article is the creation of an overarching company process with the aim to offer companies a guide on how the presence of women can be increased. Companies need to take advantage of both female and male talent and to build on their skills for a better future. We are aware that adding more women to the boards of

companies and in general in leadership positions is a challenging issue, but without commitment from various stakeholders (companies, policy makers, women, society at large, etc.) the “glass ceiling” might continue to be an obstacle also in the future.

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The City of São Paulo in the Context of a Sanctuary City from a Public Governance Perspective

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ABSTRACT

The concept of sanctuary cities has been in consistent development since 1971. There are conceptual differences between the contexts of sanctuary cities located in North America and those located in the European Union. The services and benefits offered to foreign immigrants in the city of São Paulo, in North America and in the European Union were identified through documentary analysis; allocated between three perspectives, namely, social, political and legal; and classified under eight criteria of analysis. Thus, the objective of this research was to analyze whether the services and benefits offered in the city of São Paulo to foreign immigrants configure São Paulo as a sanctuary city. The results indicate that the city of São Paulo offers 11% more benefits than sanctuary cities in the European Union and 14% more benefits than sanctuary cities in North America from a political perspective. However, the city of São Paulo offers 15% fewer benefits than sanctuary cities in the European Union and 31% fewer benefits than sanctuary cities in North America from a legal perspective. Finally, an analysis of the social perspective shows a balance in the benefits offered in the three locations. This work contributes to forming a clearer managerial view of the public governance and public policies present in the city of São Paulo and paves the way for the development of future studies on the subject in the social context found within this municipality.

KEYWORDS

Sanctuary City, Public Governance, North American Model, European Model, City of São Paulo.

1. INTRODUCTION

Global migration movements have remained constant since the first inhabitants decided to seek new paths.

In recent years, the movement of undocumented immigrants and refugees, whether to seek better living conditions, survival, relief from political persecution or other motivational factors, has seen considerable growth. Citrin and Sides (2008) claim that both Europe and the United States are currently facing challenges related to the economic and cultural integration imposed by immigration.

Although the United States has a greater tolerance for the cultural differences present between its citizens and immigrants, Citrin and Sides (2008) observe that both Americans and Europeans crave a lower numerical level of immigrants than that which they are currently faced with; however, both groups understand that the intensification of immigration requires more selective policies for the immigration process and that, at the same time, such policies must show support and receptivity regarding the culture of immigrants.

Mancina (2013) understands that the adoption of services and benefits related to the reception of international undocumented immigrants, which can be used to establish a locality as a so-called sanctuary city, has taken place in several municipalities, especially in the United States, where most sanctuary cities are concentrated. The author points out that in recent years, immigration movements have been growing rapidly, even in Europe, most of which have been stimulated by religious activists who invoke moral principles associated with religious traditions.

This movement of people that is characterized by immigration and the seeking of refuge and associated with the predisposition of municipalities to adopt policies to protect undocumented immigrants and refugees suggests that the evolutionary process of so-called sanctuary cities has contributed to the formation of a new construct. Specially, a sanctuary city is not merely a symbol; rather, its presence represents a question of social justice (Wonders and Fernández-Bessa, 2021).

In this context, the identification of the services that support foreign immigrants in the city of São Paulo and the comparison of these services with the characteristics and differences found in identified sanctuary cities located in North America and Europe may indicate the presence of the city of São Paulo in the context of a sanctuary city; furthermore, such a comparison may highlight how the level of support offered in São

Paulo aligns with the public governance process or contributes to the improvement of this process to benefit immigrants.

São Paulo is the largest urban center in Brazil; according to Kaufmann, Räss, Strebel, and Sager (2021), irregular immigrants seek to live in such environments, as doing so provides them with more opportunities. These individuals seek to inhabit and reside in large urban centers; they are not merely concerned with citizenship (Zuzarte, 2020). According to Juzwiak (2014), São Paulo is the largest and most economically important city in Brazil; it is also the city that, both historically and currently, receives the greatest number of immigrants to Brazil, either legally or illegally, with a long tradition of being the choice destination of immigrants seeking refuge and asylum. According to Berenice Maria Giannella, who is with the Municipal Secretariat for Human Rights and Citizenship (SMDHC), “São Paulo is the Brazilian city where most of the migrant and refugee population in Brazil lives, and we want to continue being a city that welcomes these people” (Nações Unidas Brasil, 2019).

Traditionally, the city of São Paulo has been recognized for its good and close relations with immigrants since its creation in 1554. In the 19th century, with the end of slavery, the city was one of the main places in the country that received immigrants aiming to work on coffee plantations. “In the 19th century, the Italians, Spaniards and, a little later, the Japanese came”, explains researcher Thiago Haruo from the Immigration Museum (Special Secretariat for Communication, 2019).

In this sense, the general objective of this research is to analyze whether the services and benefits offered by the city of São Paulo to undocumented foreign immigrants configure it as a sanctuary city. To achieve this objective, this research proposes the following specific objectives: 1) to identify the elements that are offered by cities in North America and the European Union to undocumented immigrants from the perspective of their immigration policies and 2) to analyze and point out the services and benefits that are offered by the city of São Paulo to undocumented foreign immigrants from the perspective of their public immigration policies.

The relevance of this study lies in the fact that in Brazil, the theme of immigration and public policies has acquired an increased and significant level of importance in the socioeconomic, political and legal contexts of the country. According to Patarra (2005), the immigration movements present in Brazil are currently a relevant social issue involving specific groups, especially those composed of undocumented immigrants, as they are vulnerable and subject to the actions of people who explore the possibility of

taking advantage of others; this issue requires the urgent reformulation and implementation of immigration policies, as well as actions that take into consideration the human rights of immigrants. The nonincorporation of this theme in the public management of the city weakens the public governance process, which requires defined policies and an adequate positioning in relation to immigrants from other countries. It is worth noting that the analysis of North America and the European Union does not present a theoretical core guide, even though these areas present a more structured political format for undocumented immigrants.

As the theoretical field is not consolidated, as a contribution to the field, this study presents the differences found between the two examined models from three different perspectives, namely, social, political and legal; these differences are then used to establish an analysis model for the theoretical framework of cities and their practices.

As a contribution to governments and organizations, this study presents a relevant contribution to the process of public governance, particularly in the matter of the services and benefits that Brazilian municipalities and states can develop for the population of undocumented immigrants who seek decent opportunities in Brazil to improve their lives.

2. THEORETICAL FRAMEWORK

This section of paper indicates the theoretical references on which the research is based in order to support the most relevant concepts of the main themes that are addressed throughout the study. Thus, the theoretical context herein is divided into three main topics, namely sanctuary cities, the context of immigration in Brazil and public governance, as well as their respective subtopics.

2.1. Sanctuary Cities

The origin of the concept of the sanctuary city, according to Ridgley (2011), is attributed to the incorporation of municipal policies in 1971 in the United States, specifically in the state of California, which established Berkeley as a sanctuary city that emerged from several trajectories of different political organizations. This movement initiated the process of establishing new municipal policies; these policies were utilized by the city of Berkeley to offer asylum to US Navy service members aboard the aircraft carrier *USS Coral Sea* when they started a campaign to prevent the American aircraft carrier from engaging in the Vietnam War.

As mentioned by Bau (1985), Coutin (1993) and Cunningham (1995), the history of the concept of sanctuary in the United States is long and without linearity since the concept took different paths in different periods and moments depending on the political particularities and cultural contexts of each place.

According to Mancina (2013), the increased momentum of the sanctuary movement can be seen during the period ranging from the 1980s to the 1990s, i.e., when religious and civil society representatives challenged the immigration authorities of North America by supporting refugees from Guatemala and El Salvador, as well as other vulnerable undocumented immigrants; these representatives provided support, defense and protection while find shelter in what they called "public sanctuaries."

Approximately half of Americans currently live under sanctuary policies that protect undocumented immigrants, according to The Washington Times (2018); this proportion of Americans is distributed among 564 sanctuary jurisdictions, according to the FAIR - Federation for American Immigration Reform (2018), which are made up of U.S. states, counties, and municipalities. The number of such jurisdictions has increased by 200 since former President Donald Trump took charge of the country on January 20, 2017.

The sanctuary movement has spread to cities in the UK and, more recently, to Canada, according to Basok (2009). According to the author, an estimated 500,000 undocumented immigrants reside in Canada, with the city of Vancouver adopting a position depicted by the slogan '*Fearless Access*' in 2016, which was followed by the similar actions of other cities such as Montreal and London in the Canadian province of Ontario.

Bauder (2017) understands that the sanctuary movement has its central focus in the United States and represents the phenomenon that has emerged from the nonmandatory cooperation of cities with federal immigration authorities, such as when the city of San Francisco self-declared itself to be sanctuary city in 1985.

The practices and policies of sanctuary cities have received widespread attention among activists, policy-makers and academics, predominantly in North America and Europe. "Many, however, have mentioned sanctuary city policies as part of the context of other sociocultural processes related to the experience of undocumented immigrants in the United States" (Quesada et al., 2014).

According to Chishti and Hipsman (2015), the concept of a sanctuary city refers to a set of relevant local policies and measures that establish the prevalence of their application to people with different nationality contexts, thereby limiting the application of federal immigration laws in that locality.

Bauder (2017) states that the services and benefits offered by urban sanctuaries do not eliminate illegality but rather encourage undocumented immigrants to deal more adequately with the situations that stem from such circumstances, thereby not combating the root of the problem but still allowing these individuals a less-troubled life given their condition of illegality.

In different nationality contexts, as Bauder (2017) proposes, the services and benefits offered by sanctuary cities focus on different populations and react to different legal and administrative circumstances, thereby enabling a comparison between sanctuary cities in Canada and the US, which specifically seek to protect undocumented immigrants, with those in the UK (and in the so-called the European Union), which involve a general commitment to welcome asylum seekers and refugees.

Nevertheless, as explained by O'Brien, Collingwood, and El-Khatib (2019), some sanctuary cities present characteristics of informality, having not established official related policies; however, similar to formal sanctuary cities, such places refuse to enforce federal laws and choose to not cooperate with federal immigration authorities without ensuring that such measures protect undocumented immigrants in their territories.

2.1.1. The North American Context

Sanctuary cities in the United States, according to Ávila (2017, p. 56), emerged in a democratic context that sought long-term solutions for the millions of refugees from Central America who arrived in the country, who were motivated by their survival of civil wars in their home countries.

Spreading across the country in 27 different states, the 172 counties and cities that have been labeled sanctuary localities are designated locations that refuse to assist the federal government in the enforcement of the immigration law of the country, according to reports by the Center For Immigration Studies - CIS (2019).

A publication of the National Conference of State Legislatures (2014) indicates that unauthorized immigrants are generally not eligible for public benefits at the federal level; however, this publication also lists, as shown in Table 1, the exceptions to this ineligibility and the benefits and services that are accessible to undocumented immigrants, with an emphasis on the fact that it is within the purview of each state of the federation to deny undocumented immigrants access to the listed benefits.

Emergency medical treatment under Medicaid, if the individual otherwise meets the eligibility requirements and the medical condition is not related to an organ transplant procedure;
Immunizations for immunizable diseases and testing for and treatment of symptoms of communicable diseases (does not include assistance from Medicaid);
Short-term, noncash, in-kind emergency disaster relief;
Programs, services, or assistance that deliver in-kind services at the community level, do not have conditions for assistance on the recipients' income or resources, and are necessary for the protection of life and safety: Includes access to soup kitchens, crisis counseling and intervention, short-term shelter, mental health services, and child and adult protective services;
Financial assistance in rural areas to farmers, owners, developers, and the elderly for loan insurance, the purchase of property, housing for trainees, and low-rent housing for farm workers under Title V of the Housing Act of 1949;
Loans and grants for water access and waste treatment to alleviate health risks under Section 306C of the Consolidated Farm and Rural Development Act;
Free public education for grades K-12;
Federally subsidized school lunch and school breakfast programs for individuals eligible for free public education under state or local law;
At the state level, medical coverage under SCHIP, including prenatal care and delivery services, for unborn children who meet other program eligibility criteria;
The Special Supplemental Nutrition Program for Women, Infants, and Children (WIC);
The Child and Adult Care Food Program (CACFP);
The Summer Food Service Program;
The Special Milk Program;
Commodity Supplemental Food Program (CSFP);
The Emergency Food Assistance Program (TEFAP); and
The Food Distribution Program on Indian Reservations (FDPIR).

Table 1. Set of benefits and services offered by the United States federal government for which undocumented immigrants are eligible. *Source:* National Conference of State Legislatures (2014). Adapted by the author.

Similar to the establishment of policies by states and municipalities, regardless of federal immigration policies, the National Conference of State Legislatures (2014) ensures that the benefits offered to undocumented immigrants by sanctuary cities are also established correctly by each locality and points out that such benefits may present specificities that are inherent to the socioeconomic, political, and legal contexts.

2.1.2. The European Context

The concept of sanctuary cities in the European Union presents basic differences when compared with the concept of sanctuary cities in North America, although such differences depend on the peculiarities of the local context. According to Bauder (2017), the European context of sanctuary cities differs from the American context in terms of the level of cooperation with federal immigration authorities, as well as the means by which to protect undocumented immigrants from federal immigration law enforcement. Squire (2009) indicates that the city of Sheffield in the United Kingdom became the first sanctuary city in the country in 2007, under the support of the city council and more than

70 business organizations. The author states that all those involved in the process of forming a sanctuary city, including the political, business class, community members, and undocumented immigrants themselves, consolidated a solid foundation of support and commitment to this initiative.

According to Bauder (2017), analogous to the American context, in which the concept of a sanctuary city applies to different countries and cities, in the European Union, although the concept of sanctuary is part of a broad political debate, each country in the European Union understands the meaning of a sanctuary city in a peculiar and proper way; thus, urban sanctuaries can present contextualized approaches to situations. Applied at the national level, the author proposes that these contextualizations can inspire innovative services and benefits for countries regarding the formation of their immigration policies, social insertion and the return of undocumented immigrants to their places of origin, including countries in which the concept of sanctuary city is not yet applied comprehensively.

The European Commission (2016) emphasizes that the European Union, through its economic and social policies, must support the flow of immigrants and refugees from other countries by meeting their immediate basic needs and building inclusion policies within the fields of society, education, the labor market, health and equality to offer everyone significant opportunities for social and economic participation, thereby establishing, for the purpose of the current research, an action plan with the following objectives:

- Establish policy priorities and specific measures to help European Union countries regarding the social integration of immigrants and refugees from other countries.
- Define the operational and financial support that the European Commission can provide to support the national policies of each country, as well as the various organizations working on the integration of immigrants.

This action plan includes initiatives defined by the European Commission (2016) of the European Union, which are presented in Table 2, to support the integration of immigrants and refugees from other countries into specific areas.

Area	Initiative
Predeparture/prearrival	Measures to promote the start of integration activities as soon as possible, i.e., before migrants begin their journey, and within the communities that will receive them.
Education	Measures to support the provision of language classes and promote inclusive education.
Labor market	Measures to promote the early identification of the skills and qualifications of newcomers and to promote the removal of barriers to vocational training and the successful sharing of good practices.
Basic services	Housing and health services are areas of national policy; however, the European Union can help fund and support best practices, especially for those who are the most vulnerable, and develop pilot training programs for health professionals.
Social inclusion	Measures to promote the active participation of newly arrived migrants in cultural, youth, sports and other activities, as well as measures to promote mutual understanding and combat all forms of discrimination.
Policy coordination	The European Integration Network can be used to encourage contact and cooperation between national, regional and local authorities, nongovernmental organizations that are active in the field and other networks that are active in specific policy areas such as employment and education.
Financing	In addition to available national funding, the European Union can co-finance different aspects of integration, ranging from social inclusion and poverty reduction to job creation, through its social, regional and rural development funds. The Asylum, Migration and Integration Fund can provide specific support for integration activities.

Table 2. Action plan for the integration of immigrants and refugees from other countries into the EU. *Source:* European Commission (2016). Adapted by the author.

Mascareñas and Eitel (2019) believe that many cities in the European Union have taken steps to support undocumented immigrants, such as the city of Barcelona in Spain and the city of Rotterdam in the Netherlands, and justify their attitudes based on political, moral, public health and safety, and social inclusion issues. Additionally, according to the author, in the Netherlands, the cities of Rotterdam and Amsterdam also provide housing for those who are the neediest.

The European Union has been making efforts to establish immigration policies by focusing on undocumented immigrants. However, the difficulty of reconciling the policies of each member country is an obstacle to the formation of a consolidated policy for the region. In this sense, Pachocka (2016) notes that the development of a European Union migration policy is limited, as it requires the development and sharing of good practices, adequate funding, solidarity and a willingness to cooperate on the part of all member countries.

Immigration policies should seek to establish a balance between citizens and legal and illegal immigration, with a focus on the preservation of human rights; this is corroborated by Pachocka (2016), who calls attention to the need for the greater understanding and awareness of European societies with regard to immigration issues, especially those

related to undocumented immigrants, human rights issues and the inclusion processes of undocumented immigrants prior to the development and implementation of immigration policies.

Not all benefits and social programs are accessible to undocumented immigrants, according to Orrenius and Zavodny (2016); however, the authors point out that in some northern European countries, immigrants who apply for asylum and unaccompanied children are able to receive housing, food and monthly financial aid. The authors highlight Germany as a country that provides housing, food, and a monthly cash allowance to asylum seekers who are registered under this immigration condition. Additionally, according to the authors and similar to the situation found in Germany, unaccompanied children in Sweden can receive a significant level of benefits to ensure the support of their families, without excessively stimulating the number of asylum applications by undocumented immigrants.

2.2. The Context of Immigration in Brazil

The number of refugees in Brazil has consistently increased in recent years, as published by the FAPESP Agency (2015), mainly because Brazil is considered by potential immigrants to be a country full of great opportunities. This concept is present in immigrants' perceptions due to the influence of the growing presence of Brazilian companies in other countries.

Brazil, according to the *Migration Policy Institute* (2018), is a priority destination in the choice of undocumented immigrants from the Americas, including Bolivians who are seeking asylum, Venezuelans who are fleeing from the political and economic crises present in their country, and Haitians who are motivated by economic problems, survival and humanitarian conditions; such diversity, in some ways, calls into question Brazil's ability at the national, state, and municipal levels to adapt to such circumstances.

According to the UNHCR – The Un Refugee Agency (2019), the political and economic crises that are present in some countries, such as Venezuela, have been causing an increase in the number of refugees seeking asylum in Brazil.

Juzwiak (2014) mentions that Brazil is a signatory of most international human rights treaties, repels slavery and human trafficking and aims to provide safe immigration following the principles of the treaties and conventions supported by the United Nations (UN), the Organization of American States (OAS) and Mercosur, in addition to

bilateral agreements that Brazil maintains with countries who hold positions of recognized relevance in regard to the issue of immigration.

2.2.1. Immigration policies in the city of São Paulo and support for immigrants from other countries

São Paulo, as described by Juzwiak (2014), is the largest and most economically important city in Brazil; it is considered the city that both historically and currently receives the greatest number of immigrants who enter Brazil both legally or illegally, with a long tradition of being the choice destination of immigrants seeking refuge and asylum. According to Berenice Maria Giannella, who is with the Municipal Secretariat of Human Rights and Citizenship, "São Paulo is the Brazilian city where most of the migrant and refugee population lives in Brazil, and we want to remain a city that welcomes those people" (United Nations Brazil, 2019).

IOM BRAZIL (2019a), i.e., the , has pointed out that the city of São Paulo has a good migration governance policy that has been internationally recognized and results from innovative and inclusive characteristics; furthermore, the city boasts the best infrastructure for the immigrant public, such as reception centers (hostels) and various civil society organizations, as well as some public agencies that support both documented and undocumented immigrants.

The SMDHC - Secretaria Municipal de Direitos Humanos e Cidadania (2019) (Municipal Secretariat of Human Rights and Citizenship), has indicated that the city of São Paulo, which serves as the capital of the state of São Paulo, currently boasts four immigrant reception centers, one of which is exclusive for women, in addition to the possibility of also being served at all the social assistance reception centers that are also available in the city. The four immigration centers are as follows: 1) the Bela Vista Reception Center for Immigrants; 2) the Bom Retiro Reception Center for Immigrants; 3) the Pari Reception Center for Immigrants; 4) the Penha Reception Center for Immigrants.

In 2017, the Commission of Migration was created by the City Council of São Paulo (2017), with the mission of contributing to the more effective analysis of the Municipal Policy for the Immigrant Population, which was proposed in 2016; more specifically, the commission aimed to explore the context of the undocumented immigrants and refugees situation. According to councilman Eduardo Suplicy, who is president of the Commission of Migration, this commission was different from others, which usually start from a complaint. "We wanted to know how undocumented immigrants and refugees are living and how we can help them. Our city was formed by undocumented immigrants, and

receiving them well is essential" (councilman Eduardo Suplicy - Portal of the City Council of São Paulo, 2017).

In 2015, the International Organization for Migration (IOM) established, in partnership with the intelligence unit of "The Economist" magazine, a set of indicators that is intended to provide a reference by which to guide countries in evaluating their migration governance processes and directing their public policies toward immigrants. Among this set of indicators, which number 90 in total, 87 indicators have been identified by the IOM (International Organization for Migration) as serving as the basis for the composition of local migration governance indicators, which are represented by six dimensions of migration governance and constitute a basic reference for the development of municipal policies consistent with the needs of immigrants.

Immigration policies in the city of São Paulo are based on the six dimensions of migration governance, which represent the indicators of local migration governance, according to the IOM BRAZIL (2019b). These dimensions are associated with the immigration policy guidelines presented in Table 3, which were published in 2019 in an IOM report entitled *Indicators of Migration Governance: The City of São Paulo*.

DIMENSIONS OF MIGRATION GOVERNANCE	IMMIGRATION POLICY GUIDELINES FOR THE CITY OF São Paulo
RIGHTS OF MIGRANTS	Compliance with international standards and promotion of migrants' rights.
INTEGRATED GOVERNMENT APPROACH	Policy formulation using evidence and an integrated government approach.
PARTNERSHIPS	Building partnerships to address migration and related issues
WELFARE OF MIGRANTS	Promoting the socioeconomic well-being of migrants and society.
CRISIS MOBILITY DIMENSION	Effectively address the mobility dimensions of crises.
SAFE, ORDERLY AND REGULAR MIGRATION	Ensure that migration occurs in a safe, orderly and dignified manner.

Table 3. Political Guidelines for the City of São Paulo. *Source:* IOM BRAZIL (2019a).

The analysis of local migration governance indicators by the IOM (International Organization for Migration) shows that the city of São Paulo has structured key policies that are based on these six dimensions and promote initiatives that are relevant to the composition of a migration management model; this model benefits both immigrants and the communities that welcome them.

On 07/08/2016, Municipal Law 16,478 was instituted in the city of São Paulo and regulated by decree No. 57,533 of 12/15/2016 of the City Hall of São Paulo; this law

addresses the immigrant population and establishes principles, guidelines, and priority actions.

As presented in Table 4, Municipal Law 16,478 covers several themes that direct priority actions for the benefit of immigrants.

Theme	PRIORITY ACTIONS
SOCIAL ASSISTANCE	Assure immigrants of the right to social assistance, facilitate their access to social benefits and offer them reception services in situations of social vulnerability.
HEALTH	Ensure the unrestricted access of the immigrant to health services, considering the requirements of displacement related to mobility, the differences of epidemiological character and the peculiarities characteristic of the health services of the country from which the immigrant proceeds.
WORK	Ensure and stimulate the immigrant's right to decent work, observing equal treatment, as well as the opportunities offered, in relation to other workers, as well as promoting the inclusion of immigrants in the formal labor market and fostering entrepreneurship.
EDUCATION	Ensure the right to education in the municipal public education network of all children, adolescents, young people and adult immigrants, ranging from access to the permanence and completion of the educational cycle.
CULTURE	Respect diversity and cultural values, ensuring the participation of immigrants in the cultural agenda of the municipality, considering the realization of cultural manifestations in public spaces and the stimulus to intercultural production.
HOUSING	Promote actions to allow the immigrant access to housing programs, thereby reinforcing the immigrant's right to decent housing of provisional or definitive character.
SPORT AND LEISURE	Promote the inclusion of immigrants in sports programs and actions, in leisure and recreation activities, thereby ensuring their access to the municipal's public sports equipment.

Table 4. Priority actions aimed at immigrants in the city of São Paulo. Source: Municipal Law 16,478. Adapted by the author.

As disclosed by the bUNHCR – The Un Refugee Agency (2016), the municipal policy of the city of São Paulo as it relates to immigrants allows these individuals access to services and benefits related to social assistance, education, health and job opportunities, thereby guaranteeing immigrants the right to these services and benefits.

2.3. Public Governance

The word governance is currently used and mentioned in several fields of study, especially those directly related to business management process control. Mancina (2013) mentions that the governance process involves discovering the means by which to identify goals and the ways to achieve them; however, it is not easy to achieve these goals in practice, even if the paths are known by public management and political science.

The concept of governance is propagated by other forms of management, including public management and private business management, thereby allowing the rise of new concepts and specific definitions, such as public governance and corporate governance.

In Brazil, the principles of public governance already influence the state in the conception of public management models and in its relations with private initiatives and civil society. De Oliveira, Pisa, and Augustinho (2016) affirm that public governance brings public management closer to a new configuration that is characterized by entrepreneurial state management, with precepts of business management, which requires constant behavioral changes of all players involved in the public sector context fostered by the state.

According to the IOM BRAZIL (2019a), migration policies are part of migration governance and are widely used without a clear definition, including topics such as regulation, restriction and migration control. Additionally, according to the IOM BRAZIL (2019a), migration policies can cover several areas, including labor opportunities, integration and humanitarian migration/asylum, family, ethnicity and illegal immigration.

2.3.1. Public Policies

The construction and implementation of public policies require, as mentioned by Howlett and Cashore (2014), bold political articulation and technical design able to combine the goals that the policies contemplate with the resources of those involved in the process. This statement corroborates, with the definition of public policies proposed by Dye (2016), "... anything a government chooses to do or not do" (*Understanding Public Policy*, Chapter 1, Page 1).

Among several definitions and concepts about public policies, (Secchi, 2010, p. 2) proposes that "... public policy is an elaborate guideline to address a public problem." The author also defends that every definition of public policy has an arbitrary character, without a consensus identified in the specialized literature, due to the different answers to three fundamental questions:

1. Do government entities have exclusivity in the elaboration of public policies, or do they count on the participation of nongovernmental entities in their elaboration?
2. Are omission or negligence also objects referred to in public policies?
3. Do public policies consider only strategic guidelines, or are operational level guidelines also considered public policies?

3. METHODS

The present study applied documentary research as the technique for data collection, supported by documents that have been published from the perspective of the concepts inherent to the objective of this study; that were written by academic authors of scientific articles, entities and representative organizations acting on the basis of providing support and assistance to immigrants; that focus on the main locations targeted by immigration, both governmental and nongovernmental; and which serve as information vehicles in the form of articles in published renowned newspapers and journals, with a level of credibility that is recognized in the world scenario.

In this sense, specific academic and scientific articles, reports, news, and interviews, among other forms of knowledge, which have been published in the most important information vehicles, including academic websites and public, governmental and nongovernmental entities, journals and journals, which focus on the theme in question, were used.

It is worth noting that, aiming to establish a context for comparing the city of São Paulo with the North American and European models, the search for information sourced in those locations was established through documentary research conducted at the municipality, state, and country levels. In this same direction, the data and information collected, which refers to the services and benefits offered by North America and the European Union to immigrants, were analyzed from the perspective of their public policies aimed at undocumented immigrants and the basis of the immigration laws of these localities and were extracted from the consulted documents, articles, materials and websites; the services and benefits that were identified in each location analyzed demonstrated higher levels of adherence according to the descriptions of these policies and laws.

The process of public governance, according to the IFAC (2014), encompasses, in its structure, the administrative, political, economic, social, environmental, legal dimensions, among others, which, when put into practice, can ensure the achievement of the results committed to by governments with society. In the same vein, the Court of Auditors of The Union (2014) indicates that public governance can be analyzed from the following four perspectives of observation: 1) society and state; 2) federative entities, spheres of power and policies; 3) organs and entities; and 4) intraorganizational activities. For a more assertive analysis of the services and benefits offered to immigrants by the observed localities and aligned with the objectives of this study, three specific

perspectives were proposed and established for this study; these perspectives are considered to be the most representative of and significant to the issue of immigrants, under which services and benefits are classified. They are the 1) social perspective, 2) political perspective, and 3) legal perspective. Thus, the services and benefits identified for each of the localities were associated to at least one of these three perspectives, thereby respecting the adherence and alignment of the services and benefits to the proposed perspectives.

Municipal Law 16,478, which was established through decree No. 57,533 dated 12/15/2016, by the São Paulo City Hall, outlines the municipal policy for the immigrant population and establishes in its chapters and sections the parameters that serve as the basis for the identification of services and benefits that the city of São Paulo provides to immigrants; it also leads the choice of seven analysis criteria for comparison between the localities considered for this study. These criteria are a) accommodation, b) food, c) documentation, d) education and teaching, e) social inclusion, f) health, (g) security, and h) work.

The adoption of these analysis criteria allow the establishment of a normalized classification among the services and benefits offered to immigrant in each locality in order to seek the greatest possible execution of the associated services and benefits nested within each of the proposed criteria.

4. ANALYSIS AND DISCUSSION OF RESULTS

The tabulation process and the consolidation of the data and information considered two parameters to support the analysis: 1) incidence by perspective and 2) incidence by criterion. The first parameter, shown in the line "**INCIDENCE BY PERSPECTIVE**", represents the number of services and benefits to which each perspective corresponds, that is, the services and benefits allocated to each perspective. The second parameter, shown in the column "**INCIDENCE OF CRITERION**", represents the number of services and benefits associated with each criterion. Thus, correlations were established between these two parameters as they were observed in the localities.

Table 5 presents, for each location under analysis, the incidence rate of services and benefits identified for each of the three perspectives; specifically, this number represents the amount of times that the services and benefits in each perspective were allocated. Additionally, in the same table, the percentage value that corresponds to the relative

participation of each locality by perspective is presented, considering as a basis the total consolidated incidence rate between them.

LOCATIONS	PERSPECTIVE					
	Social		Political		Legal	
	Incidence	Percentage of participation	Incidence	Percentage of participation	Incidence	Percentage of participation
North America	19	38%	13	30%	15	48%
European Union	17	34%	14	33%	10	32%
City of São Paulo	14	28%	16	37%	6	19%
CONSOLIDATED TOTAL	50	100%	43	100%	31	100%

Table 5. Participation of the services and benefits of the localities by perspective. *Source:* Search data. Prepared by the author.

In the data presented in Table 5, for the social perspective, a balance is perceived between the participation of North America and that of the European Union, with percentages of 38% and 34%, respectively, in the global context of the three localities. In this sense, the city of São Paulo, at 28%, has a 10% and 6% smaller share in relation to those of North America and the European Union, respectively; this outcome points to a social perspective characteristic that is closer to that of the European Union.

The political perspective presents a higher percentage for the city of São Paulo, which boasts 37% of the total services and benefits found between the three locations. The localities in North America and the European Union show a balance among each other for this perspective, with the total for the European Union only being 3% higher than that for North American.

The legal perspective portrays the largest percentage discrepancy between the three locations analyzed; North America is shown to be dominant in regard to this perspective, with a difference of 16% more than that of the European Union and 29% more than that of the city of São Paulo; São Paulo also differs significantly from the European Union, with a score of 13% less for the perspective in question.

North America has a profile that is more consistent with the political and legal characteristics, with significantly greater weight for the latter perspective. In the analysis of the American context, Cottle (2018) draws attention to the fact that sanctuary cities in North America act according to their own laws and legal decisions, which is corroborated by O'Brien et al. (2019), who discuss the autonomy of sanctuary cities in North America that establish and follow up their own immigration laws.

The European Union shows a noticeable linearity between the three perspectives in the provision of services and benefits by perspective, thereby demonstrating remarkable balance. The social character of these localities is evident in the analysis of the documents and in the literature on the immigration process in the European Union. Squire (2009) strengthens the support of the community by arguing that both politics and businesses are turning to support the European Union's initiatives, which is in line with The European Commission (2016), Bauder (2017) and Pachocka (2016), all of which highlight the European Union's stance of welcoming undocumented immigrants in a more conscious and humanitarian way by focusing on human rights and its search for political and legal solutions to the social inclusion of these immigrants even before the establishment of the development and implementation of immigration policies.

The city of São Paulo stands out due to its predominance in the category of the political services and benefits offered to immigrants and refugees compared to those offered within the other two localities. It is important to highlight the low level of participation of the city of São Paulo in the context of the legal perspective, which reinforces the character of the municipality's own initiative in the context of its own public immigration policies, as highlighted by the IOM BRAZIL (2019a); such policies are presented in an innovative and inclusive way, and the city's immigration policy stems from the initiative of the city council without being a legal obligation or an imposition by the federal immigration authorities. Thus, the city's history pertaining to immigration policy is seen to be consistent with the low level of participation in the legal perspective and a much higher level of participation in the political perspective. The social perspective appears in the context of Municipal Law 16,478, which justifies the results of the participation in services and benefits from this perspective.

Table 6 presents, for each analyzed location, the numerical incidence rates of the criteria, as well as the percentage of incidence of each criterion, relative to the total number of services and benefits identified for each locality.

ANALYSIS CRITERION	LOCATIONS		
	North America	European Union	City of São Paulo

	Incidence	Incidence Percentage	Incidence	Incidence Percentage	Incidence	Incidence Percentage
Accommodation	1	3%	3	13%	2	11%
Food	4	14%	1	4%	0	0%
Documentation	2	7%	0	0%	1	6%
Education and Teaching	2	7%	2	8%	2	11%
Social inclusion	4	14%	9	38%	6	33%
Health	8	28%	1	4%	2	11%
Security	8	28%	4	17%	2	11%
Work	0	0%	4	17%	3	17%
TOTAL SERVICES AND BENEFITS	29	100%	24	100%	18	100%

Table 2. Participation of analysis criteria by location. Source: Search data. Prepared by the author.

The data presented show, for North America, a predominant focus on the health and security criteria, which, together, total 56% of the services and benefits classified within the overall criteria. The incidence percentage rate of the security criterion reinforces the concept of the sanctuary city, as understood by Hintjens and Pouri (2014), as a place of protection and security for immigrants and refugees, i.e., a place that protects them from federal immigration law and keeps them free from deportation.

The result of the health criterion, which presents a significant incidence percentage rate of 28%, is aligned with the policies of the services and benefits offered to immigrants and refugees in North America, as reported by the National Conference of State Legislatures (2014) and the New York City Comptroller - Office of Public Affairs and Stringer (2018). The food and social inclusion criteria, both of which comprise 14% of the services and benefits offered to immigrants, are also explained in the reports of the National Conference of State Legislatures (2014) and *the* New York City Comptroller - Office of Public Affairs and Stringer (2018); similarly, two other criteria—documentation and education and teaching—both have an incidence rate percentage of 7%, with explanations also being reported in the reports of the abovementioned entities.

The accommodation criterion has an incidence percentage of 3%, which, although not representative when compared to that of the security and health criteria, is reported by *the* New York City Comptroller - Office of Public Affairs and Stringer (2018). It is worth mentioning that in North America, the work criterion comprises 0% of the participation within the set of services and benefits offered to immigrants, as it is not included in the

set of policies adopted by sanctuary cities in North America published by the ILRC (*Immigrant Legal Resource Center*) (2016).

The European Union boasts a predominant social inclusion criterion among the set of criteria adopted, with an incidence percentage rate of 38%; this result is in line with the proposal made by the European Commission (2016) regarding the definition of initiatives aiming to support the integration of immigrants and refugees into the European Union. This incidence percentage for the social inclusion criterion is equivalent to the percentage outcomes found for the security and work criteria, which together add up to 34%. The outcome of the security criterion, with an incidence percentage rate of 17%, aligns with the understanding of Têucher (2018) and Mascareñas and Eitel (2019) on the need for more justice and awareness in the foundation of an integrated policy for the European Union regarding the reception of immigrants and refugees. Similarly, the work criterion, which has an incidence percentage rate of 17%, coincides with the statement made by Orrenius and Zavodny (2016) regarding the search for greater job opportunities, even an informal search, in the southern region of the European Union.

The accommodation criterion, with a 13% incidence percentage rate for the supplied services and benefits, is the 4th most relevant criterion; this outcomes shows that this criterion represents a fundamental role in the supply of services and benefits to immigrants and refugees. Chandler (2018) emphasizes the commitment of religious entities to the sheltering of such people, which is corroborated by Mascareñas and Eitel (2019), who refer to the offer of housing in the Dutch cities of Rotterdam and Amsterdam. The criteria of education and teaching, with 8% of total, and food and health, each of which has 4% of the total, do not have significant relevance when compared to the criteria previously discussed; however, these criteria are present in the integration process of immigrants and refugees that has been proposed by the European Commission (2016). The documentation criterion has zero incidence percentage rate (0%), as this criterion does not appear in the action plan proposed by the European Commission. Bauder (2017) mentions the stimulus provided by the European Union for the return of immigrants and refugees to their places of origin, thereby indicating that the regularization of documentation is not a priority in meeting the basic needs of these people.

The city of São Paulo has an incidence rate of 33% for the social inclusion criterion, which is the city's highest incidence rate outcome and 16% higher than the second-place criterion when examining the services and benefits to immigrants and refugees. When comparing the social inclusion criterion across the three locations, the city of São Paulo

indicates a greater compatibility with the European Union, i.e., only 5% less, than with North America, thereby demonstrating a clear tendency to offer services and benefits that have a significant reception component obviously present in the immigration policy of the municipality; in São Paulo, this component is represented by Municipal Law 16,478 (2016) regarding the establishment of priority actions aimed at immigrants and refugees. The work criterion appears to be the second-largest present in the services and benefits offered to immigrants and refugees in São Paulo, with an incidence percentage rate of 17%, which is equal to that presented for this same criterion by the European Union; this outcome demonstrates a significant similarity between these two localities. The IOM BRAZIL (2019b), in its Migration Governance Report, has recognized the support of the city of São Paulo in regard to the care, guidance and provision of authorization to immigrants and refugees for decent work.

The criteria of accommodation, education and teaching, health and security for the city of São Paulo all present equal incidence percentage rates of 11%, which is an outcome that indicates remarkable balance and uniformity in the provision of the services and benefits that are distributed within the proposed criteria; there is an emphasis placed on the education and teaching criterion, when compared to that of North America and the European Union, as São Paulo boasts a difference of more than 4% and 3%, respectively. It is worth noting the compatibility of the accommodation criterion in the city of São Paulo with that presented by the European Union, as ensured by the priority actions contained in Municipal Law 16,478 (2016).

The documentation criterion, which has an incidence percentage rate of 6% in the services and benefits provided by the city of São Paulo, demonstrates compatibility with the same criterion in North America but does not appear as relevant, although it is as important as the other criteria.

The food criterion has an incidence rate of zero, as it is not a specific benefit addressed by the immigration policy of the municipality. However, breakfast is served in shelters provided by the city of São Paulo, which are intended for immigrants and refugees.

4.1. Discussion of Results

Based on the documents and articles analyzed regarding the three locations in focus, it is noticeable that North America, with regard to the issue of immigration that are specifically aimed at immigrants and refugees, presents a connotation that is very based

on laws; that is, adapting to the format of this research, North America concentrates in its laws the conditions for the treatment given to immigrants. The mutual political opposition, as perceived in the documentary analysis, between the self-styled sanctuary cities and the federal immigration authorities appears to be an antagonistic force. On the one hand, sanctuary cities, which have their own laws and autonomy, seek to protect immigrants and refugees from the actions of federal laws. On the other hand, federal immigration laws seek to act more rigidly in order to drastically restrict the presence of these immigrants within the territory.

In North America, the legal perspective has the highest incidence rate (48%) among the three perspectives, which is due to the independence of municipal authorities in the establishment of their own laws. The context of sanctuary cities shows a strong social component, as these municipalities protect immigrants and refugees from deportation by federal authorities. This result is reflected in the incidence rate of the social perspective (38%); although the outcome of the social perspective is 10% below that of the legal perspective, this does not suggest that it is less important but is rather a consequence of the soundness of municipal laws.

The incidence rate presented by the political perspective (30%) in North America, although it is lower than the others, has relevance in the establishment of policies applied to immigrants and refugees, which are understood as complementary to the previously mentioned perspectives.

The incidence percentage rates of the three perspectives in the European Union are balanced, with irrelevant variations between them; i.e., the difference between the highest percentage, which is for the social perspective (34%), and the lowest percentage, which is the legal perspective (32%), is only 2%. The context of the European Union, as noted in the documentary analysis, shows a strong tendency to and greater focus on providing welcome, well-being and security for immigrants and refugees.

Unlike the characteristics of North America, the European Union does not have a high level of concern about the deportation of immigrants and refugees; instead the European Union offers conditions of survival through the services and benefits contemplated by immigration policies as a way to stimulate the return of these immigrants and refugees to their places of origin. A free stay in the sanctuary localities located in different countries throughout the European Union differs from that offered by sanctuary cities in North America, which protect immigrants and refugees only within the limits of the municipality that is considered a sanctuary city. The European Union deals with

immigration as a consensus among the participating countries, thereby providing, as noted in the document analysis, broader geographical mobility.

The city of São Paulo has the highest incidence percentage rate for the political perspective (44%). Although traditionally, the city of São Paulo has characteristically welcomed immigrants, with Italian and Japanese immigrants providing the greatest amount of evidence, the profile of these two immigrant nationalities differs from the profile that is examined in the current research. The approach taken in this study is immigration that is undertaken for survival needs and to seek out better living conditions, in addition to immigration that is motivated by various modalities such as political, racial, ideologic, among others; this is a profile that continues to increase because Brazil is the only examined locality that accepts the arrival of immigrants and refugees without restrictions. In this sense, the documentary analysis points to the need for a specific law of immigration for the city of São Paulo because it is the most sought-after destination by immigrants and refugees due to the economic and social conditions of the municipality, which is a fact that ratifies the incidence percentage rate of the political perspective.

Municipal Law 16,478 (2016) includes a significant range of services and benefits offered by the city of São Paulo to immigrants and refugees, with a predominant social nature, which is in line with the incidence percentage rate of the social perspective (39%). These two perspectives, namely, social and political, already present services and benefits in relevant quantities, thereby leaving the legal perspective with the lowest percentage of participation (17%)’ however, the legal perspective should be viewed in conjunction with the support of municipal initiatives toward immigrants and refugees, as seen by the national immigration policies.

In the criteria of analysis for North American, the two incidence percentage rates that stand out in North America, namely, health and security, both equal (28%), thereby reinforcing the peculiar characteristic of sanctuary cities in North America in regard to the protection of immigrants and refugees against deportation by federal authorities; as already mentioned, these cities are strongly focused on opposition to the application of federal immigration laws.

The incidence percentage rates of these same two criteria, namely, health and security, for the European Union (4% and 17%, respectively, which together result in 21%) and for the city of São Paulo (11% for both, which together result in 22%), have unrepresentative values in relation to those found for North America; however, the first two locations show a significant alignment of these criteria when compared with each

other. This result demonstrates a more humanitarian and social profile in regard to welcoming immigrants and refugees, which is in line with the data prospects for these locations.

The social inclusion criterion for both the European Union and the city of São Paulo presents very close incidence percentages (38% and 33%, respectively); i.e., this criterion represents the highest values in both localities when compared to the other criteria. The results portrayed by these data reinforce the conceptual similarity of the services and benefits offered to immigrants and refugees, thereby converging these two locations to similar profiles of immigration policies.

The incidence percentages rates of the other criteria for each locality are equally important but do not present an order of magnitude that needs to be highlighted for the purpose of comparing the three localities. The values perceived in the eight criteria indicate similarities between these localities (highlighted in Table 2). For this comparison, a maximum difference of 6% was considered between the values of the incidence percentage rates to determine the similarity between the three localities. There were two similarities found between the cities of São Paulo and North America, while there were find similarities found between the city of São Paulo and the European Union and only one similarity found between North America and the European Union.

A specific law for the protection of the legal reception of immigrants against deportation is not required in São Paulo since this authority lies in the federal realm instead of the municipal realm, as presented in the structure of government in North America. In this sense, the more humanitarian and social profile of the city of São Paulo is more aligned with the model of the European Union in regard to maintaining the appropriate proportions in relation to the social, political and legal systems of the European Union, as well as the cultural differences present in a process of this nature.

The conceptual differences between what is understood as a sanctuary city in North America and the European Union, according to the research data, clearly point out that the American concept is based on the counterposition of federal immigration law enforcement, which favors the deportation of immigrants and refugees, while the European concept is based on social and humanitarian aspects. In this context, the city of São Paulo is configured as a sanctuary city within the European model. Although there are peculiar characteristics present in this configuration of the city of São Paulo in relation to immigrants and refugees, the essence of the concept of a sanctuary city, which is

currently presented according to the proposals that have been made by several authors, is that of reception, protection and integration.

5. CONCLUSION

This qualitative research, in its general objective, proposed to analyze whether the services and benefits that are presented by the city of São Paulo to undocumented immigrants from other countries configure this city as a sanctuary city. Furthermore, in order to fulfil this general objective, this research proposed the following two specific objectives: 1) to identify the elements that the sanctuary cities of North America and those of the European Union offer to undocumented immigrants, from the perspective of immigration policies and 2) to analyze and point out the services and benefits that the city of São Paulo offers to undocumented immigrants from the perspective of its public immigration policies, which led to the present study.

The theme of a sanctuary city, which is central to the current research, is not a familiar theme in Brazil even though it already has a history in North America, where it was conceived,. The growing movement of immigrants and refugees to Brazil who come from countries in conflict and in precarious economic situations, motivated the current research, which could trigger a series of studies that bring about a broader view of public governance and its relevance in the process of improving the current public immigration policies, as well as in the formulation and implementation of new public policies aimed at immigrants and refugees. In this context, the city of São Paulo, which has already been recognized by the IOM (International Organization for Migration) as a leading location in the migration management process, can serve as a reference for other localities that also receive a significant number of immigrants and refugees and wish to establish public governance objectives that include the issue of immigration as a priority of their public management process.

The analysis of the results obtained in the documentary research for the social, political and legal perspectives indicates incidence percentage rates with varied orders of magnitude. The social perspective is shown to be the most balanced among the values presented for North America, the European Union and the city of São Paulo, at 38%, 34% and 39%, respectively. In the context of the other two perspectives, namely, politics and legal, the discrepancies between the three localities are more pronounced; the largest difference between the values is found in the political perspective, which is 14% higher for the city of São Paulo in relation to that found for North America and 11% higher in

relation to the European Union. The legal perspective also presents discrepancies between the three localities, with even more marked differences of 31% and 15% found for the city of São Paulo and for the European Union, respectively, compared to that found for North America. This outcome points to a greater similarity between the city of São Paulo and the European Union in regard to the profile of the provision of services and benefits to immigrants and refugees.

Within the scope of the analysis criteria proposed in this study, 56% of the total services and benefits offered to immigrants and refugees in North America are concentrated in the health and security criteria. However, for the city of São Paulo, the percentages of incidence for these same criteria, added together, represent 22% of the total services and benefits offered to immigrants and refugees; this is a figure that is very close to the sum found for the European Union, which is 21%. This minimal difference of one percentage point demonstrates, considering the common concepts of reception and protection that are present in sanctuary cities, regardless of the locality, a greater conformity between the characteristics of the city of São Paulo and the European Union. While the results of the individual incidence percentage rates for these two criteria, namely, health and safety, in both the European Union and São Paulo present some discrepancies, they are less significant compared to those found for North America.

The results obtained show that for each of the three localities, at least one analysis criterion presents a incidence percentage rate of zero; that is, for the city of São Paulo, for North America and for the European Union, the criteria of food, documentation and work present a zero value, respectively, which is why they are not considered in this discussion of the results.

From the perspective of the three remaining analysis criteria, namely, accommodation, education and teaching, and Social Inclusion, for each of the localities, the incidence percentage rates of each of these three criteria added together present values of 55% for the city of São Paulo, 59% for the European Union and 24% for North America. These figures show a balance between the city of São Paulo and the European Union, with a difference of only 4%. Among the incidence percentages presented for the three criteria, there is a uniformity between the incidence percentage rates for the education and teaching criterion in the three localities; i.e., the city of São Paulo boasts 11%, the European Union has 8% and North America has 7%. The greatest influence on the significant difference that is presented as the sum of the incidence percentages of North America (24%) for the three criteria of accommodation, education and teaching, and

social inclusion and that for the city of São Paulo and for the European Union is found in the accommodation criterion, with 11% for the city of São Paulo, 13% for the European Union and 3% for North America, and in the social inclusion criterion, with 33% for the city of São Paulo, 38% for the European Union and 14% for North America. These outcomes demonstrate a greater level of adherence and conformity regarding the characteristics of the city of São Paulo with those of the European Union.

The current research sought to fulfill the proposed objectives, both general and specific, and has concluded that the city of São Paulo is configured as a sanctuary city that is more aligned with the European model than with the North American model because it presents more social and humanitarian views; however, in some respects, São Paulo is similar to the American model.

This study contributes to the development of academic research that is focused on social and political issues that motivate the migration process between nations. Specifically, with regard to Brazil, the research has identified which factors are important in regard to mobilizing a range of immigrants and refugees to the country. In the practical aspect, this study makes a relevant contribution to the improvement of public immigration policies in the city of São Paulo by emphasizing the process of public governance as being essential to the management of immigration issues within both the municipality and the country. Furthermore, the study can serve as a basis for other localities who wish to establish their own immigration policies or improve those that may exist, as well as to highlight the role of governance in public management.

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New economic-business paradigm: The cryptocurrency and the tokenization of the economy. Monetary and financial revolution. The Blockchain, as the ultimate evolution of the accounting book.

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ABSTRACT

Since the beginning of the economic revolution in terms of cryptocurrency and tokenization, we have been researching the theoretical aspects and the practical and real implementation aspects. As well as the potential that these have to establish new financial, entrepreneurial, accounting, and many other paradigms. We cover various fields (philosophical, legal, monetary) and areas that may be affected by the emergence and subsequent establishment of this new paradigm. Through comparisons or examples, we try to clarify the common factors that have in common with business success and the development of these new elements.

KEYWORDS

Cryptocurrency, blockchain, tokenization, cryptoactive.

1. Contextualization and historical conceptualization

In the course of human history, we have located two great advances that have changed the sociological development of humanity and have brought logic, coherence and ease to its social, economic and commercial development, among others. These two inventions that have evolved with society, and which we will always deal with from both the intellectual and sociological point of view, are not purely scientific or technological advances; they are what have made it possible to lay the foundations of concrete characteristics in the relationships of both people, both of their means, and of the civilizations that have been formed throughout the course of human history, establishing that basis in the development of transactions.

After our research, fruit of our analysis, these two elements are: language¹ and money²/currency³, understanding the latter as united terms, in fact, they are gathered as synonyms. Both are associated with different particularities, as well as other brilliant inventions or underlying ideas. Language understood in its broadest sense and money as an index to value the level of wealth. We have not found any other determining element for the development of human activity that has had such an impact.

Both elements have acted as mediators throughout ancient and contemporary history. Understanding language, in its broadest sense, with its meaning and content as language and money as an index to value the level of wealth, being represented in the currency(money), in that is measured. This money directly influences the development and survival of communities. Wealth marks people's destinies, and money is a wealth meter for the population in general and as economic activity develops, in different elements that appear in it.

Perhaps, in recent times, an invention has appeared that can end up displacing them or establishing itself at their level (that of language and currency). This invention is the Internet. According to our analysis, the new element has the potential to deploy new evolutions or advances of the previous ones, as has already happened at the level of

¹ Language: The ability of human beings to express themselves and communicate with others through articulated sound or other sign systems. Language. (RAE Dictionary)

² Money: Current currency. Treasury, fortune. (RAE Dictionary)

³ Currency: Instrument accepted as a unit of account, measure of value and means of payment. (RAE Dictionary)

language and as could happen with currency, deploying it through its networks and making it serve to function in a useful way. However, given the bizarre nature of the invention and the lack of comparability in terms of its impact on society, we cannot yet consider the Internet and everything it represents at the same level. Although it seems to be part of this cast, for what it has represented until now, it has them. As the famous writer, member of the Royal French Academy, Victor Hugo said: "There is nothing more powerful than an idea whose time has come".

However, if we speak of the Internet, of what emerges and for what emerges, we could consider it one of those sub-elements associated with language. Its basis is communication; with that intention, it was born in its origins and in practice it has managed to revolutionize it. For this reason, we must analyse the Internet in everything that has to do with people and the association between them, whether it is directly or indirectly related to language or money.

Richard Buckminster Fuller, American designer, architect, visionary and inventor, said that: "You will never change things by fighting against the existing reality. To change something, you have to build a new model that makes the existing model obsolete". In the same line, the most influential German philosopher of the 20th century, Martin Heidegger (2002), asks how man has to face the technological revolution, with all the advances for humanity that this entails, whether positive or negative. He reflected that it is necessary to understand and to put them in a context of total and abstract mental opening, not only to prepare for the external changes that are coming, that will modernize and change all the society and its rhythms, but to internalize and to accept new paradigms that in another epoch would be totally implausible.

Dr. Enrique López González (2018) raises the importance of the introspective re-evaluation of our relationship with previously internalized and acquired dogmas and thoughts, especially regarding the advance of digitalization in many aspects of our society, making some observations in order to be able to make predictions in the future. It is necessary to arrive at a meditative modification of thought, above a continuous revolution based exclusively on pragmatism, and that which is calculable or quantifiable. The philosophical current of progressive rationalism⁴ suggests to move away momentarily from pragmatism, interiorizing in our conscience new ideas, to later develop them pragmatically.

⁴ Rationalism: A doctrine based on the omnipotence and independence of human reason. (RAE Dictionary)

All this is happening all the time and is caused by a dizzying succession of technological and social advances. These evolve and transform modernity itself, at an increasingly significant rate.

There is a tacit acceptance of this idea in the Anglo-Saxon term VUCA⁵, coined by Bennet and Lemoine (2014) in their articles in the "Harvard Business Review". The word VUCA combines the four main characteristics of this modernity, and at the same time the most difficult to assume mentally, as it happens with everything that is: Volatile, Uncertain, Complex and Ambiguous.

From the technological and human development analyzed in our study, in the last years it has arisen, fruit of the advances and social demands, the financial and economic "self-management", without damage of failures or mutabilities. It is then when the "Blockchain"⁶ rises as a consequence of the new order forged by the Internet. The "Blockchain" is nothing other than the digitalization of the accounting general ledger, an element that has been used since the old age to reflect the economic or financial movements of any entity. Thanks to the accounting ledger, the first city-states were born and it became sustainable to execute the most basic values of control and order to be applied on the management and administration of the economic life of a society. The "Blockchain" eliminates, one of the first problems that the accounting general ledgers had when there were few resources, a palimpsest⁷ effect, which makes it possible for them to be modified and mutated. Similarly, the problem of double spending, which is so worrying in terms of digital money, is eliminated.

But what specific advantages and benefits does such digitalization achieve? To begin with, the block chain eliminates the main problem of the analogical or mutable accounting book. Nothing recorded can be rewritten or deleted because technology makes it immutable. Through consensus among users and the rules that everyone assumes when

⁵ V.U.C.A: acronym for volatility, uncertainty, complexity and ambiguity.

⁶ The blockchain is a data structure in which the information contained is grouped into sets (blocks) to which information is added relating to another block in the previous chain on a timeline, so that, thanks to cryptographic techniques, the information contained in a block can only be repudiated or edited by modifying all subsequent blocks.

⁷ Palimpsest: Manuscript in which the primitive text has been deleted, by scraping or other procedure, to rewrite a new text. (RAE Dictionary)

using this technology, the possibility of erasing or rewriting records, as well as the problem of double spending⁸, is removed from the equation.

The most fascinating thing about the "Blockchain" technology attached to any "token"⁹ or "crypto currency"¹⁰, is that within it there are cultural, philosophical, ethical, ideological and pragmatic foundations. Some of its characteristics refer to different fields and subfields within those fields. To give an example, within the economic field, the "blockchain" brings together features of game theory or incentives, accounting, general ledgers or balance transfers, and even of mathematics or cryptography.

There are many other theories and theorems applicable to different fields and issues, which make the valuation of this technology complex. From an analytical point of view, their coherence and logic have very clear functional bases, which, although mutable by consensus, make it inadvisable to try to deceive or modify them at first (according to the protocol, doing so costs more than the hypothetical benefit obtained). It is also determined, after a detailed analysis, that it maintains its own idiosyncrasy, even though it is analyzed from many different ways and perspectives.

The "bitcoin" is the circulating currency or "token", attached to the "Blockchain". To make a comparison, we would say that it is the gasoline that allows the "blockchain" to work and, at the same time, acts as an oil so that its gears maintain their essence and nature. However, it is difficult to define the cause-effect relationship between Bitcoin and Blockchain. Due to the fact that it is the crypto currency with the largest community of users, which moves more capitalization and dominates a high percentage of the market, the technology has been able to reach a higher level of development. The association and conjunction of both technologies (blockchain and bitcoin) established in 2009 by Satoshi Nakamoto¹¹ (Nakamoto, 2009), is what we know and forms the TCD; Distributed Accounting Technology.

Even though the blockchain technology is not exclusive to Bitcoin, and its nature makes it adaptable to other tokens or crypto-currencies (for example: Ethereum, Ripple or

⁸ Double spending is a potential flaw in digital currencies whereby the same digital currency or token can be spent more than once on the same network.

⁹ In numismatics, "tokens" or monetiformes are coin-like objects, which are used instead of coins without being so.

¹⁰ A cryptocurrency is a digital medium of exchange.

¹¹ Satoshi Nakamoto is the name assigned to the person or group of people who created the Bitcoin protocol and its reference software, Bitcoin Core.

Bitcoin Cash), the perfect symbiosis with the Bitcoin network is what places it in a position of superiority and preponderance over other digital currencies. Although a thorough analysis of Bitcoin raises many technical and other questions, the suitability of this union is unquestionable.

2. Paradigm development: Apparition and Ontology

The first time that the concept of *cryptomoney* is mentioned is in 1998, in the Bmoney essay (Wei Dai, 1998) about the anonymity of transactions between people, by the prestigious Doctor in Electronic Engineering Dai Wei. It is in this text where the bases of cryptocurrency are laid as the use of a value directly linked to cryptography as a means of protection, and to currency as a means of payment and deposit of value. Perhaps no one could foresee its rapid development at that time, but that is where the foundations of electronic or virtual currencies are laid.

About 10 years later the first public appearance of crypto currency occurs, which from that moment on becomes a reality. On the mailing list "cryptography", an announcement is made on November 1, 2008, a user under the pseudonym "Satoshi Nakamoto" reveals that he has worked on an electronic money system different from what we know so far, concisely shows us a summary of its properties and possibilities. It can be found in the original article (Nakamoto, 2008), in which both the first specification of the protocol and the Bitcoin proof of concept are compiled, and which has been done by the user, or group of users behind which "Satoshi Nakamoto" is hidden.

However, it's not until two months later, on January 3, 2009, that the Bitcoin peer-to-peer network is generated and launched and the Genesis block is created with it. As we will see later on, we call this block the set of transactions that are registered within the network in 10-minute periods. The first client is published, and the first bitcoins are generated, giving rise to the first existing decentralized e-commerce transaction where operations are not registered or channeled through banks or financial sector companies that track their transactions.

On February 11, 2009, a user, who again answers to the name of "Satoshi Nakamoto", publishes this time in the web portal P2P foundation, the following statement:



Figure 1: “Satoshi Nakamoto” Notice. Source: P2Pfoundation.

In it, he explains which portal the Bitcoin system will use as its official portal, the article explaining the design, the initial client with which he started the network and, of course, the main features of Bitcoin in all its aspects.

That's how Bitcoin came about, but it won't be until the end of 2010 that the user "Satoshi Nakamoto" will announce that he's leaving the project to focus on other goals, leaving his legacy anonymously to the world, without any intention of notoriety, and disappearing as surreptitiously as he had appeared. Despite the great curiosity about the creator or creators of Bitcoin, their origin and motivations, we only know the data that was collected in the P2P foundation profile, at the time of publication: It would be a 38-year-old man, with Japanese nationality, something that unfortunately we can't verify, and we won't be able to verify, until someone proves that he has the original keys to the original Bitcoin network account.

There are several theories about the identity of "Satoshi Nakamoto". It must be assumed that the creator or creators have extensive knowledge of mathematical algorithms and cryptography, so some speculations point directly to well-known people around these aspects, such as Shinichi Mochizuki, a professor at Kyoto University who specializes in number theory. Some theories point out that its creator could be immersed in illegal businesses and black markets, since by its changing nature through exchange sites (bitcoin for any other currency), cryptocurrency can facilitate that type of business. It cannot be ruled out that the founder "Satoshi Nakamoto", through a message to one of the developers of Bitcoin, will disassociate himself from the project in 2011, in order to devote himself to other issues.

Knowing the origin of Bitcoin and the Distributed Accounting Book Technology, it is necessary to explain what the system it supports consists of and what its main lines of use or action are.

To begin with, we can talk about the DABT as three different things. It is at the same time, an electronic currency, a software and a protocol, but it is necessary that they appear as an integrated system that allows the realization of fleeting transactions between pairs, by means of the "P2P" or "peer-to-peer" network. By the very definition of this type of network and the way Bitcoin operates, it is an autonomous system that offers a number of rewards, allowing payments to be made worldwide with minimal or no transaction costs.

The choice of a technological system based on a "P2P" network, is one of the bases on which the creation of Bitcoin and its protocol is based. Since in this way it does not depend on a monetary authority which is in charge of the emission and control of money, as well as the establishment of self-determined monetary policies. In this way, the bitcoin becomes a currency whose value cannot be manipulated by any government body and, therefore, inflation cannot be created in the system by producing more currency. Since it is the network itself that manages both the issue of bitcoins and the transactions, it is difficult to think that its operation applied to a network of users cannot be a success. The issuance of bitcoins or any other cryptoactive used by the DABT system is not manipulable because it is the network itself that generates currency through so-called "mining", creating bitcoins in a controlled and decentralized way.

On the other hand, the use of cryptography in the protocols means that there is a great guarantee of security for the transactions. There is no surveillance or supervision by any

authority, as is the case with the rest of the existing currencies prior to Bitcoin. By using these cryptographic elements, double spending can be prevented and fraudulent payments avoided, since, if the latter happens, the system will reject it and the rest of the network nodes would equally reject the user's transaction.

In addition to the new technical aspects, the system of cryptocurrencies that Bitcoin opened the way to is new, due to a peculiarity that did not exist until now. A coin with the implications and volume of use and acceptance that bitcoin has, including the DABT protocols, works without an authority to regulate the issuance of coins or an authority that can decide whether to accept or deny transactions.

It is the users who assume that by using the Bitcoin network, they implicitly take command and make those decisions globally and among all users, collaborating to make the system work without anyone being able to manage it at their sole will.

We can understand this new nature and its philosophy through examples, to put them in context, even though we haven't yet gone deeper into the system or the protocol.

1st example: A user, let's call him Carlos, makes a payment of 351 BTC to another user whom we will call Miguel. How do we protect a network in a situation where Carlos could try to trick the system, to try to make a transaction again with those 351BTC, which now belong to Miguel? Well, so that Carlos doesn't try to use those 351BTCs again to pay Lucia (a third user and Bitcoin client), what the network does is publish the transactions. When they become public, if the user tries to spend again with those particular 351 BTCs, the system will notice and through the network, the rest of the users will reject it, which will make any attempt to reuse those 351 BTCs impossible.

2nd example: As we mentioned before, it is the Bitcoin users themselves who make up the network. Therefore, Bitcoin users collaborate directly with the network and, as long as each one of them collaborates, Bitcoin will reward them by obtaining bitcoins, (this process, known as mining, will be discussed in the corresponding block). This may tempt users to cheat the system to increase their bitcoin harvest, but because of the very structure of the system design, it is up to the users to validate this reward once it has occurred. Therefore, if the user decided to use fraudulent means to acquire new bitcoins, increasing the amount of bitcoins received, the action would be quickly rejected by the rest of the users, making it impossible again to manipulate the system.

Figure 2. Box about the practical explanation of the nature of Bitcoin. Source: Own elaboration for doctoral thesis at UOLS.

As far as we can see in this couple of practical examples, it is the nodes and bitcoin users themselves who are in charge of validating the operations, not a central authority. To feed itself, the network depends on the honesty of the network itself and not on the impositions that come from the monetary policies that a government institution decides to apply. From this we can deduce that, as long as more than $\frac{1}{2}$ of the percentage of Bitcoin users in the network's computation are considered to be honest, the network will follow the evolution that they understand and assume to be correct. Bitcoin users have real power over the network, since the network is so vast it is literally impossible for a single person, or several of them, to claim more than half of the existing Bitcoins. The system marks the weighting of the user's influence on the Bitcoin network or any other cryptography using the DABT.

If we look at its nature and at the examples given above, we can sense that something really interesting is happening and that it has a projection and potential that goes beyond economics.

"Even under government pressure, Bitcoin could evolve as a sort of parallel society cohesive of countless fully voluntary agreements among Bitcoin network users" (Gonzalez Otero 2013).

Following the appearance of Bitcoin, a totally new economic and social framework appears on the scene. Nothing like this has ever existed before. If Bitcoin were adopted, or a later system that could be better adapted or that included substantial improvements over Bitcoin (like other existing systems already, with more advanced protocols), government bodies and financial authorities would not be able to control the evolution of money directly as they have been doing up to now, through the implementation of their monetary policies. They could influence it indirectly through regularization, regulation and subsequent legislation, but they could not control its behavior. As we will see later, the legislative framework in which an electronic or virtual currency such as the Bitcoin can be moved is cumbersome. Since it is international, and not national, it is more difficult for a regularization to take place or for effective legislation to be carried out.

But more important than legislation, since it is a totally new scene in the world economic order, are the effects of the global and generalized use and acceptance of this currency, which would turn the scenario into a complete unknown with unpredictable results.

3. Legal context for the regulator and its financing models.

We will analyze different concepts that will allow us to understand the contractual situation observed in different matters related to the situation of the regulation of cryptocurrencies and cryptoactives, mainly in relation to their possession and control.

3.1. Financing models - The ICOs.

There are three main ways to obtain cryptocurrencies, which determine the type of product, the development policy of the product and the ways or methods through which it will be financed.

Through airdrops¹². In this case, the delivery of some coins is requested free of charge, which the developers of the same give, voluntarily and for free, to promote their new creation. It is the most virtuous way to acquire digital coins or cryptoactives, because the developer is particularly involved in the success of the coin and, on the other hand, it is the way with the least risk of all.

By means of hard forks¹³. The duplicities of the blockchain that give rise to new cryptocurrencies. If a chain is separated, because the developers or supporters of the network do not agree on its development, an investor who had crypto currencies in the first chain or original chain would have exactly the same crypto currencies in both chains. This is because where there was only one blockchain, it is doubled (there are two blockchains), and at the same time, the main blockchain is divided in two. And the investor will have the same amount of crypto currencies in one than in the other.

By means of an ICO (Initial Coin Offer). Many of the financial fears and warnings from the regulators came in the wake of the ICO fever of 2017. According to Carlos Kuchkovsky, CTO of BBVA's New Digital Business, 2017 was the year of the ICO explosion. They experienced both great successes and a series of frauds, scams and outright failures, which were mainly what alerted the supervisor and forced him to warn and remind him of the nature of this type of (financial) cryptoactives.

Investing via ICO has its advantages and disadvantages. The main advantage, and at the same time the main objective of the investor, is to obtain a return on the cryptocurrency

¹² Airdrop: Process of distributing tokens, usually for free.

¹³ Hard fork: type of P2P network protocol update that supports a crypto-currency, which implies radical changes in the consensus rules, and makes incompatible the software of the non updated nodes with the one executed by the updated nodes. Its making technically impossible for the first ones to validate data blocks created by the second ones.

or cryptoactive (by increasing its value or by the benefits that the idea or project linked to it can pay back). The main drawback is the risk of theft of cryptocurrency or its failure as a means of profit (a risk inherent in all cryptocurrency, such as the same physical money in circulation or bank money). It should also be taken into account that the more the value of a cryptocurrency increases, the more capital is acquired by the first investors. It can increase the price and "inflate" it artificially, due to its dominant position over the property (when we can strangle supply and demand, the market is under our control), its in turn generates lack of liquidity and low supply

It is quite possible that, in the future, the ICOs will allow the creation of new projects without the need for bureaucracies, placing us on the margin or in parallel with the traditional financial system. This would theoretically encourage innovation and at the same time the will of the market itself and the actors in it.

3.2. Between regularization and warning.

Since this is a completely new and deregulated concept, it is difficult to define and establish the legal framework in which Bitcoin or another cryptocurrency operates. As we have already commented, in order to standardize Bitcoin or another international currency, it would be necessary to standardize the regulation of the currency in a joint manner. Since just one server operating in a country that can escape the control of the network's transactions is enough for the network itself to continue operating without dependence or state control (all the nodes of the network would have to be intervened in order to manipulate it, since if only one node were to escape that control, it could invalidate all the operations).

With the intention of preventing legal loopholes, the "Financial Crimes Enforcement Network of the Department of the Treasury" made the decision to write a guide for the correct use and legitimization of virtual currencies in the USA (US, 2014). Bitcoin is included in it because of its decentralized system of behavior, and therefore the use of bitcoin in the US is legal. The guide also defines the obligations to which the user is subject and must comply. This was the first attempt at regulation of any crypto currency, which took place in the US.

In its early days, Bitcoin was barely regulated. Beyond any mention or creation of guidelines for its use, little or nothing was done for regulation. In a report (ECB, 2012), for the first time an international financial authority, the ECB, acknowledged that it was

studying and monitoring Bitcoin's movements and stressed that it posed a risk only to those agents who entered its network. However, at that time, Bitcoin was not considered a potential danger to the economy, as it has been later by government bodies in different countries.

In that ECB report, a tour of the virtual currencies and what they meant for the economy was made, analyzing technical aspects (monetary, fiscal and other more basic aspects). It also included a record of Bitcoin's vulnerabilities and the attacks it had received, as well as its uses on the network and aspects of its protocol. Reference was also made to the bad press and criticism it was receiving and the legal risks that the currency posed. Finally, the risks of price stability and how this could affect financial product were mentioned.

For its part, in 2009 the Central Bank of China banned trading in the first virtual currency that deserved its attention, the Q-coins, considering it potentially dangerous because of its hidden nature. Later, during 2013, it declared that it prohibited the trade of bitcoins because through its high volatility it exposed its clients to a risk that the country could not and did not want to assume. As a result of the lack of regulation, the Chinese government rejected their use both as a means of payment and as a currency, classifying operations carried out with bitcoins from its territory as illegal, as it considered that they were motivated by evasion.

The US Treasury Department, recognizing the existence of crypto-currencies and their recent acceptance and use by an increasing number of users, assumed that virtual currencies are indeed unregulated. But it did recognize the houses that are used when we establish an exchange between currencies (or a purchase of crypto-currencies if it prefers to be so defined), as an integrated element in the regulation.

As we have already mentioned, the main difference that Bitcoin or any other cryptocurrency has, with the rest of the physical currencies, is that it is not a currency regulated by a central authority that can set financial and monetary policies on its own economy and that is the one that responds and supports. However, this may not be enough to be able to solve global monetary problems in the event of a crisis, as we have seen throughout this paper. In the case of Bitcoin, this is not necessary because it works only because of the value attributed to it and granted by the members of the network. If this and other cryptocurrencies do not have the intrinsic value of trust that money generates because they are regulated by a government authority. It is not because anyone supports them or is interested in their adoption, but simply because they do not need it.

This trust and value are granted by the customers thanks to the complex system of computer protocols to which it is linked to the cryptoactive and which guarantee its security, something similar to what happened with gold and which we analyze and compare in this chapter of the paper.

In the year 2015, in the middle of one of its diastoles, Bitcoin and cryptocurrencies caught the attention of the notary's office. In February 2016, after studying and analyzing their case, the Centralised Body for the Prevention of Money Laundering in Spain launched several alert groups, to emphasize and remind notaries of the risk inherent in the use of crypto-currencies to incorporate a company, to make capital increases or simply to carry out transactions. Since then, the Spanish notary's office has followed the evolution of this technology in order to achieve its regulation to minimize its risks.

However, in the middle of the year 2019, we observe that the general forecasts to carry out this are not at all encouraging. On the one hand, we have the problem of what this technology means for different branches and sectors (including the notarial sector). If blockchain technology were to be imposed, the work of notaries would probably be in danger, unless it was supported by the route of state protectionism.

The danger lies in the fact that the individuals who are part of the network, set up an alternative and contemporaneous system with the "official" professional. It is would be based on blockchain and which would make the notary's work useless or unimportant, reducing its prestige and use value. As a matter of pragmatism, nobody would go to register something in a notarial way, being able to do it from home with an internet connection and at an infracentesimal cost, needing only the acceptance of the other individual. At that point the figure of the notary, who is both intermediary and arbitrator, could be forced to disappear.

With this example, we want to put on record the double standard or dualism that can exist when judging or valuing such technology, when it is exercised in a free, public and open way. Anyone can select it as their daily technology and somehow have some freedom to do things outside of state control. Therefore, every sector and segment regulated by the state will look with suspicion at a technology that in some way may make it obsolete or unnecessary, turning its functions into something archaic, analogical or symbolic.

In addition to the notarial sector, there are many other sectors affected by similar dichotomies, such as the financial sector, the registry, some aspects of the legal sector and public administration, and a long etc. These sectors will have to adapt to the new

technological situation, or exclude this new situation from their sectors, with the difficulties and dangers that this entails.

What is most worrying today, due to the reduced nature of their areas of influence and the number of people who are already introduced and operating in the crypto-currency sector (less than 0.01% of the world's population). It is the massive influx of "unwary private savers" who, unlike finance professionals, may not know or assess risks properly, while specialized users know and assume them as part of their profession and daily work. Due to all these exceptional characteristics, together with the novelty of this type of product, idea or market, the actions of the different supervisory and regulatory institutions to date show different attitudes and a good level of legal or conceptual coordination and communication, at international level, is not yet apparent.

On the one hand, cryptocurrencies have been banned in countries such as China, Russia, Iceland, India, Bolivia, Bangladesh, Sweden, Thailand, Vietnam and others. Many others are trying to place them fiscally and legally within the different typologies that these countries have for their financial products/assets that are regulated and typified. This, far from appearing to be an adaptation to the circumstances or "simulate" a regulation, what it does is a sort of comparison with other different products. So that they can be integrated into the same legal framework; however, due to the exceptional nature of cryptocurrencies this would only increase the confusion about their use and their circumstantial situation in each country in which we want to analyse their supervision.

To exemplify the situation previously described, let us take the following samples in such different points of the international geography.

In Australia, the ATO (Australian Taxation Office), considers that it is not a detrimental means to transactions, but classifies or qualifies it as a means of barter, and is subject to the regimes and levies of the related Australian tax law.

In Canada, the CRA (Canada Revenue Agency) considers them to be the same as the ATO as a barter medium, however, with the specifics of Canadian legislation. Transactions in crypto currencies are considered to be barter transactions. The income generated from each transaction is collected as business income. Exchanges in crypto-currency are also subject to anti-money laundering laws and therefore have to be compulsorily registered with Fintrac (Financial Transactions Analysis Centre).

In the United States, the country that together with China and Japan has been studying the classification and regulation of Bitcoin and cryptocurrencies for the longest time, has

been classified as a money service business (MSB), currently regulated and present in the US derivatives markets.

On the other hand, the EU has not agreed on specific regulation and legislation between its member states. The ESMA (European Securities and Markets Authority) has issued communications and warnings on investments in cryptosystems and ICOs, but this is only considered information for institutions, individuals and companies. Some European countries have already developed their own view on cryptocurrencies: some issue favourable opinions by their regulators and others have banned them. A third group is distant and indifferent, although some of them issue warnings and alarms. This is the case in Spain and the Press releases (CNMV, 2018a) and Considerations (CNMV, 2018b) issued by the Bank of Spain and the CNMV (National Chamber of the Securities Market) on the use and possible risks derived from their characteristics as financial products not regulated by the supervisor.

Special mention should be made of Japan, which has regulated and authorized Bitcoin as a legal means of payment, although not all other crypto-currencies; and Venezuela, which apart from being in the final part of the process to legalize and use Bitcoin as a legal means of payment, has published and publicized in different media (El Pais, 2018) the launch of its own currency, "Petro", as the state's crypto-currency, backed in its value by the country's crude oil reserves¹⁴.

It must be said, however, that Petro took a long time to have its Blockchain operational and it does not seem that it will have it fully operational in the short term. Given the Venezuelan government's silence on this matter, we understand that, before putting this idea into practice, someone suggested that there might be certain incongruities and inconsistencies with the objectives and red lines that the "socialist" government cannot or is not willing to overcome. But they nevertheless went ahead with their idea, design and the ontology that defines it in their founding document.

¹⁴ <https://www.petro.gob.ve/files/petro-whitepaper.pdf>



Figure 3. Diagram of “Petro” operation. Source: <https://www.petro.gob.ve/files/petro-whitepaper.pdf>

The problem of Petro, which they designed and made known and one day without further ado disappeared from public life, is easy to understand on a theoretical level. It is unthinkable that the wealth of this country could support the currency due to an infinite number of factors: hyperinflation, warnings and threats from other supervisors and regulators, political disunity, inconsistency between their wealth data and the data from the WTO (World Trade Organization). However, the main factor, and one that is directly opposite to the objectives and economic policy of the Venezuelan government, is that, as has been explained by Petro, it is a cryptocurrency that is backed by the value of a barrel of Venezuelan crude, from the reserves held by the government itself. This would not be at all strange, since different cryptocurrencies (or in this case it would be more correct to call them cryptoactive) such as Xaurum or DigixDao, from the Ethereum network, are backed by gold.

In the specific case of Petro, if this support were effective, it would in practice mean the privatization of the existing crude oil reserves in Venezuela. It is something that the “socialist” government could not afford in any way or with any conditional element. It goes against its founding ideals and all the policies and ideological values shown so far, is to privatize and cede to foreign capital, the policy on the country's natural resources. That is why, even though it has had an effective launch and acceptance among the first group of pensioners and public officials with whom it has been tested with two donations of half a petro per user (\$40 at the price to which they have it subject). In practice, it is

only a sort of parallel government currency (as opposed to the bolivar which is their official currency) to try to curb the highest inflation in the world. They only change the monetary platform, because the acceptance of the use of the cryptocurrency must continue to depend on the trust of the economic agents on a voluntary basis, otherwise it can only be effective at the local level. The post-Chavez regime in Venezuela has turned it into a practical laboratory at the social and economic level. The problems of general lack of supply that the country is experiencing also condition and increase the technical and operational inconveniences.

The governments' greatest fear of cryptocurrency, according to our research, is related to pseudo-anonymity and complete anonymity. To that effect, cryptocurrencies and their underlying technologies have already proven to move huge amounts of money with tiny commissions and with little or no trace. This would end the problem that many professionals, individuals and entities have to move capital or send money between countries, since the Internet is decentralized and its operation is global, unless a government regulates Internet access (as happens in China or North Korea).

The problem, again, is in the first idea itself. If these movements were to escape state control they could destabilize both the GDP of the countries and the tax collections and levies applicable to current financial movements. This is something that states will clearly try to legislate against and prevent from happening, as they would lose control over the country's taxes and sovereign monetary and financial policy, which would affect the administration of the country.

4. Success model Vs Failure model

Next, we will establish as a result of our research and analysis, a comparison in what we understand as two different models of starting up a project, related to cryptocurrency. In this case, with two different cryptoactives, we have gone to two tokens, individuals, with a clear financial vocation and in which the willingness to invest was the key to success and the correct development of the token and cryptoactives themselves.

The first, TaaS: this is what we would call an Erc-20 token, a token that is marketed and supported by the Smart Contract network and the Ethereum blockchain, the second, Bitconnect: it's a cryptoactive, with its own blockchain, its own token (BCC) and its own platform for change.

4.1. Success model (TaaS- Token as a Service)

TaaS is a type of cryptoactive, which was born through an ICO, as one of the first tokens of the Ethereum network, mounted on its contract network. The possession and holding of this token gives you the right to receive a percentage of the benefit obtained in a four-month period by the investment fund. It is the first large operational investment fund created in the world of cryptocurrency and operated exclusively with cryptoactives for cryptoactives.

Incorporated from Singapore, in February 2017, Token-as-a-Service (TaaS) is a closed-ended, cryptoactive and "tokenized" investment fund that actively contributes to the development of the blockchain ecosystem. The owners of the TAAS token take advantage of the booming blockchain markets without having to deal with the obstacles, risks and technical barriers associated with the ownership, transfer and trade of cryptosystems and tokens.

TaaS concluded its sale of tokens (ICO) on the 27th of April 2017, which lasted one month. The results were independently verified by a world-renowned accounting firm, Grant Thornton: the sale attracted 3,942 participants who contributed \$7,569,371.61 or equivalent (other cryptocurrencies).

As a result of the sale, we observed that 8,146,000.78 tokens were distributed, while the rest of the 101 million tokens initially put up for sale were burned. The price of the tokens (including bonuses) during the sale varied from \$0.8 to \$1 / TAAS. The maximum price that was paid for a TaaS token at the ICO was \$1, which is the value we will take as a reference, in this article.

The TAAS tokens are based, according to our study, on a smart Ethereum profit-sharing contract, which offers token owners 50% of the quarterly profit. The 25% of the capital gains is retained to increase the capital fund without requiring additional token sales. With its consequent capital increases accompanied by more disbursements, the system or idea with which TaaS is born, is to be viable and to be able to grow as an independent platform without external interferences. And the 25% of the remaining profits are the remuneration assigned to the fund managers.

The main premise is that the gradual increase in the net asset value increases the value of the token over time and, therefore, the token is explicitly linked to the performance of its parent structure. The best feature of TaaS is its transparency, audited by the well-known auditing firm Grant Thornton, which offers a guarantee of transparency that ensures its

viability and legality, as well as a system of annual reports, in which they unravel and explain each movement made for the knowledge of their investors and token holders. This guarantees the proper flow of information and the veracity of their operations and results. In the 4 quarters, under our monitoring, that the platform (the investment fund) was in operation and distributed dividends, its benefits, audited and already delivered, have been the following:

TaaS Dividend: Saturday, May 12, 2018

Total Benefit: \$266,937.27

Total Payment: \$133,468.63

Payment per token TAAS: \$0.01638456 USD

Payment by token TAAS: 0.00002400 ETH

TaaS Dividend: Saturday, February 3, 2018

Total Benefit: \$22,201,139.77

Total Payment: \$11,100,569.89

Payment by token TAAS: \$1.36270000 USD

Payment by token TAAS: 0.00122619 ETH

TaaS Dividend: Saturday, November 4, 2018

Total Benefit: \$5,470,784.75

Total Payment: \$2,735,392.37

Payment per token TAAS: \$0.33579577 USD

Payment by token TAAS: 0.00108020 ETH

TaaS Dividend: Monday, August 7, 2017

Total Benefit: \$4,623,111.61

Total Payment: \$2,311,555.81

Payment per token TAAS: \$0.28376572 USD

Payment by token TAAS: 0.00140665 ETH

Investing at the time when it was more expensive to acquire the token in the ICO, only with the dividends. We would already be obtaining a benefit of double the investment (2

\$), despite these dividends, and the future dividends obtained would have to be added to the intrinsic value of the token. In July 2018, with a value of more than \$2, represents, if we decided to sell today, an accumulated profit of \$2 in dividends and \$1 in profit, adding value to the token price, i.e. a 300% return in one year. Although these figures are excellent, at certain moments they exceeded the token's price, profits and returns of more than 1200%, as can be seen in the graph below.



Graph 1. Chart on the evolution of capitalization and price of TaaS token. Source: coinmarketcap.com

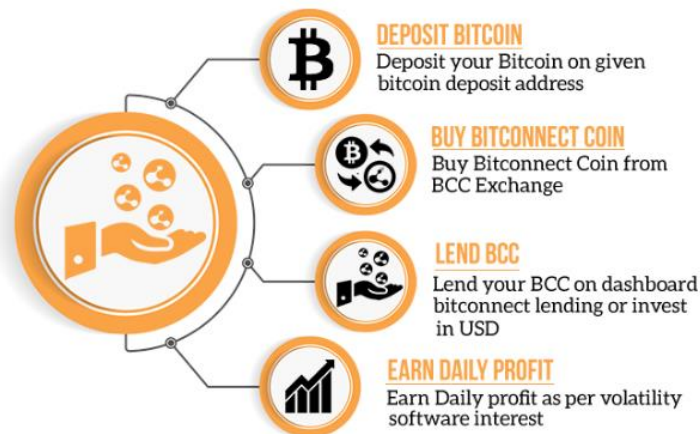
Any additional information you want to expand, can be found publicly in the Annual Report that the TaaS Foundation makes in collaboration with Grant Thornton.

The decision-makers recently decided to terminate the TaaS' project. By means of a publication in their usual communication channel, they explained the cessation of activities, as well as the liquidation of the remaining funds available to the company as equity. After auditing the remaining funds, they amounted to 10.77 million dollars, which were distributed proportionally among the token holders.

4.2. Failure model (Bitconnect)

In our analysis, and based on the following model, we will use the example of Bitconnect, a cryptocurrency/cryptoactive, which was placed in the market with a total market capitalization of 2.6 billion dollars, in early January 2018, and always present in the TOP20 ranking of crypto-currencies with the highest capitalization during 2017, to show how a scam, in this case a pyramid scheme or Ponzi scheme, develops.

This is what Bitconnect proposed:



Fuente: Bitconnect.co

Figure 4. Publicity on the scheme of its theoretical financial functioning. Source: Bitconnect.co

Bitconnect marketed itself as a crypto, with its currency/token the BCC, coupled with its blockchain and exchange platform for its community. Open source and with its own platform, it offered different methods and forms of investment, especially related to the conservation and possession of its cryptocurrency and to carry out transactions in BCC. However, without more information and more tangible data than the images, the first thing they ask you to start obtaining your interests and your benefits, without any data of proven success, is that you enter your bitcoins. At the time of the birth of Bitconnect (January 2017), the bitcoin is around \$900 per unit. This is more than twice as much as in January of the previous year (2016). Therefore, it already has a proven track record and plausible success: after a long period of decline, its price has taken off again.

According to what you can see in the images extracted from their website (still active), shown below, the returns they offered were beyond all logic and how strange it really was that, unlike our previous model of proven success, there was no reference to how they would obtain that benefit. In fact, the opacity was a shadow that hovered over their existence from birth.

Duration	Interest
1st 6 months Jan 2017 to June 2017	60% (10%per month)
2nd 6 months July 2017 to Dec 2017	50% (8%per month)
3rd 6 months Jan 2018 to June 2018	40% (7%per month)
4th 6 months July 2018 to Dec 2018	30% (5%per month)
5th 6 months Jan 2019 to June 2019	20% (3%per month)
6th 6 months July 2019 to Dec 2019	10% (1.4%per month)

Fuente: Bitconnect.co

Figure 5. Advertising the interests that a Bitconnect token would bring. Source: Bitconnect.co

Another example of the interest and "guaranteed benefits" they promised financially as a claim:

Lending Amount	Interest (Accrued Daily)	Capital Back
\$100 - \$1000	Volatility Software Interest (up to 40 % Per Month)	After 299 Days
\$1010 - \$5000	Volatility Software Interest + 0.10% Daily (up to 40 % Per Month)	After 239 Days
\$5010 - \$10000	Volatility Software Interest + 0.20% Daily (up to 40 % Per Month)	After 179 Days
\$10010 - \$100000	Volatility Software Interest + 0.25% Daily (up to 40 % Per Month)	After 120 Days

Fuente: Bitconnect.co

Figure 6. Advertising the benefits of token ownership. Source: Bitconnect.co

In January 2018, based on our investigations and follow-up, we detected, in response to several requests from different regulators, contrary rulings and various rumors that placed Bitconnect as an example of a pyramid scheme. In this case, several regulators warned consumers and required Bitconnect to cease its activities in its area of law immediately. The ruling of the U.S. Court in Texas was devastating. Its price plummeted, and the cryptoactive sank, in a succession of falls with a cumulative value of 98% of the value set on January 7th at \$420 per unit. At the end of the month, its value was reduced to \$7 per unit. In March, the value of its quotation, without any doubt a pyramidal fraud, already ends up at cents, which is the value it is trading today, with a zero volume of trading and only exchanged in a single marginal exchange house (of very little use and volume) that still supports and allows exchanges between the token (BCC) and other crypto currencies.

Here we can see the graph we have recovered, of the dollar quotation and the total market capitalization of Bitconnect since its market launch and its beginnings, until July 2018.



Graph 2. Chart on the evolution of capitalization and price of Bitconnect. Source: coinmarketcap.com

The main thing we can extract from the Texas court ruling, in order to recognize and point out a Ponzi system and its generic "modus operandi", would be the following:

"BitConnect has disclosed virtually nothing about its principals, financial condition, or strategies for earning profits for investors. It has not provided a physical address in England.

Despite providing no information on how it will make money for investors – including the algorithms behind the Trading Bot – BitConnect is touting its investments as a "safe way to earn a high rate of return."

Investing in cryptocurrencies, however, carries significant risk because of regulatory and legal actions, competition from other cryptocurrencies, and the extreme volatility in the price of many cryptocurrencies."

[...]

"The company operates websites and deploys online advertising to recruit sales agents, which it calls "affiliates." The company provides marketing material to affiliates, including online presentations, and pays them commissions for referrals that result in investments in BitConnect programs.

Sales agents for BitConnect are targeting Texas residents, as well as residents of other states, through websites, social media, and online marketplaces like Craigslist¹⁵.

The sales agents are not, however, registered as agents of BitConnect to sell securities in Texas.”.

5. Conclusions

According to our research and assessments, a multitude of reasoning and variations could be correct in the predictive development of our object of study, even contradictory. This is something logical and reasonable from the point of view of the knowledge or understanding of the subject, which the interested party has, all are subject to the generalities of human nature. The interest aroused by this market is produced by people who have a greater degree of knowledge in the subject. Like all new inventions, it is subsequently democratized and becomes accessible and awakens general interest.

From our experience, we liked to stress that we were not very sure who was more radical in their defense of their ideas and theories, but we did see clearly who was playing the role of "victim" and at the same time playing the role of "executioner". In order to justify what was unjustifiable, and to dress or provide logic, coherence and consistency, that which did not meet the conditions for accepting these characteristics.

Although from time to time in the area of contempt, people also enter with little rigour, both in terms of technical knowledge and more general knowledge of economics and sociology. In this article, we compile the main characteristics and various examples that demonstrate why we are faced with a new paradigm, which could revolutionize the economic world in all aspects if it were implemented. For this reason, it deserves both our maximum mental openness to assess and investigate it, and our respect when it is taken into account and studied. Giving answers to the questions that arise: How? When? Why?

We carry out a pioneering research in its genre to investigate. It is something that has just been born. It is something strange but cryptocurrencies are an exciting social scientific experiment, and surely the most important at a sociological level of all those experienced since the birth of the Internet, since it directly affects the entire political economy. The

¹⁵ Craigslist is an American website of classified ads from different sectors (employment, housing, commerce, etc.)

Internet is the greatest sociological invention in history after language and money itself. Nothing has changed and it has meant so much on a sociological level for human beings, only language surpasses it in importance on a historical level because it was the origin of the main tool we have as human beings who are part of a collective mayor. It closes distances, information content travels at the speed of light, makes us all more capable and offers us facilities. A factor that also occurs in the currencies we use; all of them are not personal (common to all).

From an empirical point of view, today, despite the observation of facts and our acquired experience, we can neither deny nor affirm that cryptocurrencies and their adjacent technology are a new paradigm. But we do have enough indications, studies and patterns that make us glimpse the possibility that we are facing a possible change in finance at a global level. The Economist, already awarded in 2015 to Satoshi Nakamoto, with the annual prize for innovation granted by the magazine, for that potential that his invention would have, to change finance at a global level. It is something that could happen, or not. We are faced with a dilemma similar to that of Schrödinger's Cat, until it happens and time passes, we cannot have any certainty.

This research, in one of its lines would point out that Bitcoin and the cryptocurrencies could be a bubble and if this were so, it will end up like all bubbles, but it could also break the money paradigm and establish itself as the new exchange and reserve unit of international value, offering that divergence of potentiality. This would require the confidence of individuals (users and consumers) and the continuous and consistent technological developments necessary to maintain its modernity. In the same way, it could be, as in the dotcom bubble, that it is not Bitcoin, but another cryptocurrency or another cryptoactive that will prevail as the dominant or successful digital currency in the near future. That there are other projects and other companies related to the blockchain that will end up succeeding in the medium or long term.

If we manage to identify that after many advances and years of technological disruption, we are now facing a new paradigm for money. We will have to understand and value that this money is now in a different medium. Following the simile with which we started this research, if money was the message and content and language were the medium, today, we have taken money out of the medium, to digitalize it and adapt it to our personal circumstances and to this new medium through different communication networks and people connected to each other.

What can we deduce from this and from the research work and content of this thesis? Because of our contrasting experience and the analysis of the most important experts who can be called upon thanks to Bitcoin and the other cryptocurrencies based on the blockchain. Today we could do things and make financial, economic and accounting movements that we could not do a few years ago. There wasn't even an idea that was well thought out and structured enough to be put into practice, to be able to execute and carry out, what we can do today and put into practice.

Therefore, we conclude that really and plausibly today. It already provides us with enough progress, enough technological and economic and monetary novelties to be able to say that, despite the fact that we cannot guarantee its successful implementation, or what it represents as a new model, since it is not something trivial. It covers the whole range of transactional operations, providing new solutions and possibilities for action, which did not exist before, that is, re-establishing new economic and financial paradigms, in the highest sense of the word.

Based on our study, analysis and research, we have to conclude and based on what we have described in the thesis through different phases, processes and particularities of these digital currencies and this digitalization of the economy. In the face of the questions: How would governments react? The markets? What options do they have? And the people who make up societies? And will societies themselves, as the guarantors of the well-being and good development of their living organisms, be able to adapt? As we have already seen throughout the article, many aspects must be taken into account when assessing and describing the being of this new object we are dealing with.

The three main possibilities of application of the DABT to glimpse a new model that breaks into any of the previous paradigms. These would be its three possible ways of being established, such as:

- Means of payment and/or monetary unit (which would redefine the economy as we know it)
- New dominant form of enterprise, that a tokenization is applied to the form in the business participation (as we have seen with different examples in this thesis, this would redefine the business science as we know it)
- That the countries assume the tokenization of their own economies, to establish more control or to give more freedom to the economy, propitiating less interventionism (which

New economic-business paradigm: The cryptocurrency and the tokenization of the economy. Monetary and financial revolution. The Blockchain, as the ultimate evolution of the accounting book.

would again redefine the economy and would be the replacement of double-entry accounting and financing through the state's external debt).

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