UNDERSTANDING COMMERCIAL CHALLENGES: ANALYSIS OF DEMALLING IN PORTO

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RESUMO

As compras e as atividades de comércio em geral evoluíram com a humanidade e testemunharam mudanças em vários dos seus parâmetros associados às diversas culturas e políticas de planeamento. Nesta dissertação exploramos a relação entre comércio, urbanismo e a vivência urbana.

No cenário atual observamos que as grandes atividades comerciais estão localizadas na sua maioria na periferia das cidades, e isso se deve ao propósito principal de responder a áreas mais alargadas e populosas e ainda aos interesses dos promotores em encontrarem terrenos disponíveis a preços mais baixos. Por estas razões, os centros das cidades e os bairros tradicionais tem tendência a deixar de ser atrativos, perdendo atividades que dão lugar a espaços vazios que, por sua vez, contribuem para a perda generalizada de acessibilidade comercial por parte das populações locais.

No contexto do cenário acima descrito, este estudo incidiu sobre a observação das dinâmicas que se verificam nos atuais centros e espaços comerciais na cidade. Para isso, estudamos a natureza mutável das tendências de compras associadas às mudanças de comportamento dos indivíduos. A recente tendência de relocalização de lojas com padrões de qualidade e preço mais elevados de volta às ruas principais e mais centrais das cidades, constitui um bom exemplo do reconhecimento das mudanças que é necessário introduzir no planeamento urbano das áreas comerciais nos centros das cidades. Os empreendedores e investidores em negócios comerciais também estão sendo afetados com a dinâmica de mudança dos centros comerciais e enfrentam desafios com o impulso do comércio eletrônico. Além disso, estudamos as mudanças setoriais que levaram ao aumento do número de shoppings encerrados ou em declínio e às suas consequências à escala urbana.

Utilizámos a cidade e a área metropolitana do Porto como caso de estudo. Os dados relativos aos centros e serviços comerciais foram recolhidos junto da Câmara Municipal do Porto e da Área Metropolitana do Porto (com a colaboração dos 17 municípios). Esses dados auxiliaram a análise dos atuais padrões de planeamento e condições dos centros comerciais existentes na cidade. Foram considerados os dados dos centros comerciais da Área Metropolitana do Porto para efetuar a análise a nível metropolitano. A análise final incluiu tanto o nível municipal como o nível metropolitano. Discutimos os padrões e dinâmicas de encerramento/demolição dos centros comerciais no Concelho do Porto que foram tidos em consideração nesta investigação. Por último, foram tiradas conclusões específicas sobre a emergência do declínio dos centros comerciais na cidade do Porto.

PALAVRAS-CHAVE: Centros comerciais, declínio e demolição dos centros comerciais, tendências do comércio, comércio eletrônico, comércio de rua.

ABSTRACT

Commerce and shopping activities have evolved with the evolution of the human race and have witnessed changes in various parameters such as planning, planning policies, and cultures. In this dissertation, we explored the relationship between commerce, urbanism, and liveability.

In today's scenario, we observe that shopping activities are mostly located on the outskirts of the city, it is due to the main purpose of serving a larger surrounding and also because of the interests of the developers as the availability of land at lower prices. Due to these reasons, the city and neighbourhood both experience voids in standard planning which further causes a lack of commercial accessibility.

In the context of the above-mentioned scenario, this study focused on the current planning regulations of commercial centres & spaces in the city. For this, we studied the changing nature of shopping trends with changes in the individual's behaviour. The latest trend of relocation of high-end stores back to major streets has been a good example to acknowledge changes in planning and success of commercial areas back in the city centres. The real-estate developers and commercial businesses are also being affected by changing dynamics of the commercial centre and also face challenges from the boost in e-commerce. Further, we studied the sectorial changes leading to an increase in numbers of dead malls and the emergence of an urban-scale issue of demalling.

We used the city of Porto as our case study and the data related to the commercial centres and shopping services is collected from the Porto Municipality and Metropolitian Area of Porto (the collaboration of 17 municipalities). This data assists in analysing the current planning patterns and conditions of the existing commercial centres in the city. We considered the commercial centre's data of the Metropolitian Area of Porto for performing analysis at the metropolitan level. The final analysis includes both metropolitan and macro levels for better guidance for findings and deriving patterns. Also, we discussed, the shutting down/demalling patterns and dynamics of the shopping centre in Porto Municipality individually that were taken into account for this research. Lastly, conclusions were drawn about the existence and further degree of demalling in Porto city.

KEYWORDS: Commercial centres, demalling, shopping trends, e-commerce, high street commerce.

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1
INTRODUCTION

Cities are vibrant, complex, livable, and remarkably the only space where change is immutable. Therefore, the study of cities by no means is complete. Every second there are new challenges and we need to understand them.

Throughout history, retail has evolved through the adoption of new ways to do business and the creation and development of new retail concepts, or the simple modernization of existing retail concepts, complexes and spaces. At some point, the existing commercial structure is constantly being challenged and questioned to upgrade. In this research, we aim to explore various parameters of retail, which is very dynamic in itself and is characterized by extreme expressiveness and innovation.

Forwarding, we will be identifying this changing nature and the scale of shopping centres. The development of commercial centres was a success for the retail concept in the cities. The concept and the local designation of the shopping center were shaped by the outbreak of massive suburbanization., which functions as a landmark and at the same time depicts a cityscape that is closely related to suburbanization.

In Portugal, the development of shopping centers has been accompanied by rapid diffusion of projects in the National territory. The foundational units, which are essentially urban phenomena, were implanted in the metropolitan areas of Porto and Lisbon in the seventies and remained practically confined there until early 1980. Also, 48 commercial spaces were in operation in 1999, and only 12 were in municipalities outside Porto and Lisbon, locating 4 in Algarve, 4 in Minho and the rest in Chaves, Coimbra, Beja and Tomar.

In the next decade, the expansion from 48 on the market to 417 was a true explosion. This growth has been accompanied by significant changes in the spatial layout of commercial businesses. The development of commercial centers increased importance in the metropolitan areas of Lisbon and Porto, as well as in some municipalities on the Algarve coast, where diffusion is taking place, has expanded its presence in both significant cities and municipalities. Over the last decade, the development of this infrastructure has continued to show strong momentum, but the distribution pattern has not changed significantly. The number of commercial centres were increased from 417 in 1989 to 789 in 1999.

From a planning perspective, this development was particularly rapid and over time due to the competition with other malls. At the same time, new forms of trade such as e-commerce have emerged. As the city center became more prominent, some of these retail spaces began to deteriorate and became vacant. Over time, new features have been implemented in some of these retail centers. The concept of demolition is based on this process and helps to analyze the conversion from abandoned malls to other facilities. As the number of abandoned malls grows, demolition becomes a major debate topic for scholars and urban planners.

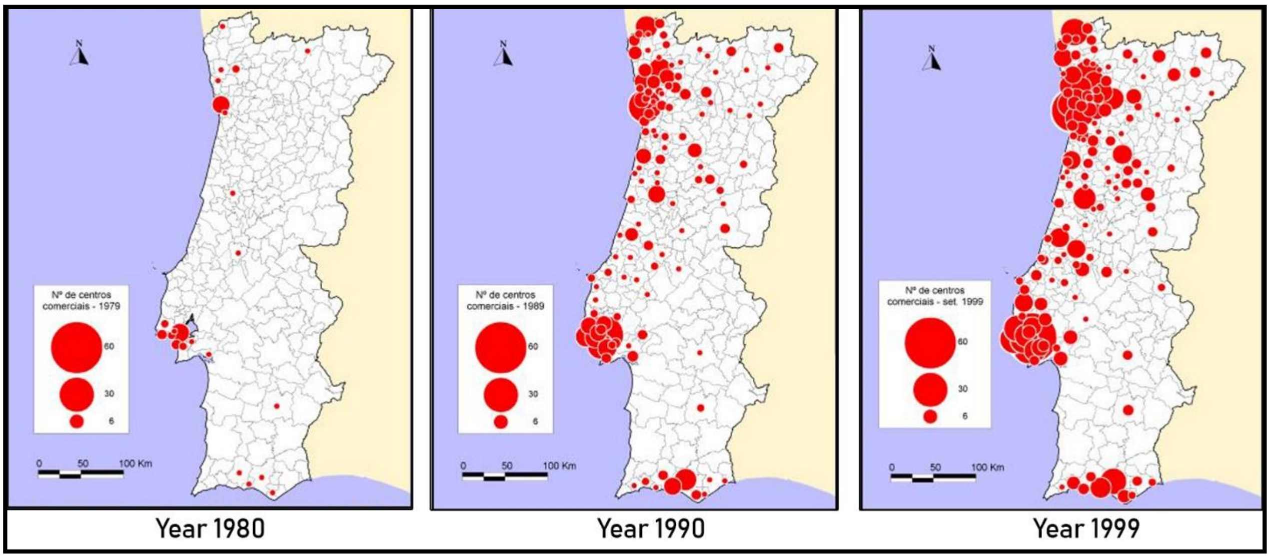

Figure 1 - Commercial centres evolution in Portugal from 1980-2000, by Herculano Cachinho in CENTROS COMERCIAIS EM PORTUGAL:CONCEITO, TIPOLOGIAS E DINÂMICAS DE EVOLUÇÃO (March, 2000)

Most of the existing research on this topic is related to expansion and urban sprawl, and building shopping centers in the suburbs is a central issue. Although not so extreme, demalling is also a topic of increasing interest in Western Europe. However, despite its importance to urban planners and urban studies, there is little existing literature on demalling and we intend to fill the gap with this study. To do this, we use case study methodologies and conduct field surveys in the municipality of Porto to obtain insightful evidence of declination in commercial centres. The process of decline will affect the old and small retail districts within the municipality, especially due to the delay in the development of large shopping centers in the city of Porto.

In this study, we would like to answer the following research question: "Is there a declination process/demalling in Porto?" If so, " What are the main functions of the process?" And "What are the areas affected by the demalling?". This study includes an introduction to commercial activities that vary in scope and nature. The second section analyzes the development of shopping malls and discusses them in the light of the demalling literature. The following describes the methodology used in the empirical studies developed in the fourth section. Finally, we analyze the evidence from Porto's case study, discuss demalling patterns, and draw conclusions for the thesis.

2
LITERATURE REVIEW

2.1. Changing Nature and Scale of Commerce/Shopping Activities(sectorial)

2.1.1. The Emergence of Online Platforms and Switch to Online Retail

Online trading platforms and e-commerce have undoubtedly taken retail services to a new level. Communication technology allows customers to enjoy their products at a more competitive price and retailers to benefit from lower operating costs. With improved payment and sales systems, online channels have evolved from "alternatives" to retailers and flagship products. Discussion of whether the relationship between online and "fixed" channels is alternative or complementary, there are different features of online and offline channels in the purchasing process *(Anupam Nanda et al.,2021).*

Some studies on "alternative effects" assume that consumers who have adapted to one shopping channel abandon the other *(Mehra, Amit & Kumar et al., 2013)*. Therefore, as online shopping becomes more popular, customers will “migrate” from physical stores to the Internet *(Zhang et al., 2016)*. In this sense, online platforms compete with physical stores as distribution channels for the sale of goods and services.

Meanwhile, further research has begun to clarify the various functions of physical stores in a multi-channel space and the "synergistic" effects of online and in-store shopping. The first feature is "showrooming", which allows you to view product information in physical stores and access products when customers "look up your purchase" *(Mehra, Amit & Kumar et al., 2013)*. Although purchases are not made directly in-store *(Fornari et al., 2016)*, their physical presence in the store has the direct and indirect synergistic effect of increasing the retailer's overall sales. Other features that online channels cannot replace (completely) one-on-one efforts for proprietary services are in addition to bespoke vendor bookings, consumer complaints, product repair and replenishment services. In experiential shopping, where the stores offer products and layouts to instantly “expand” the customer's sensory experience and increase revenue opportunities by integrating the impact on sales of exceptional channels.

Merchants, on the other hand, appreciate the efficiency and profitability of various channels. Online platforms help retailers increase competitive pressure by minimizing operational costs, improving business efficiency and increasing transparency. Some studies have shown that the adoption of e-commerce is impacted by the cost of developing an online platform and the performance of online retailing.

However, e-commerce allows retailers to develop wider markets and coverage stores. Many of these have taken shape over the last few decades, also the COVID-19 pandemic has occurred, causing more transformations.

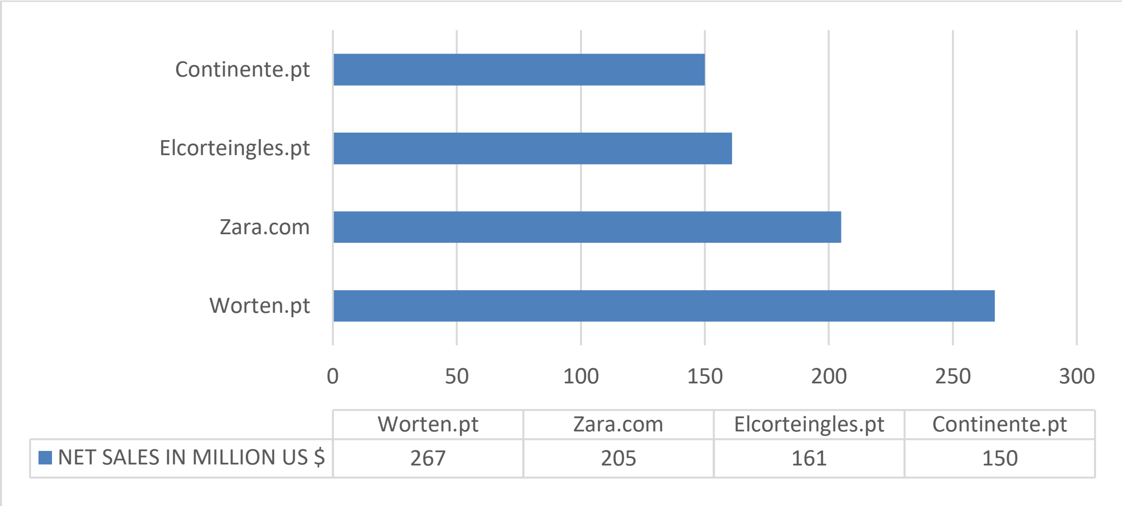

Figure 2- Top E-commerce stores with net sales in Portugal by Ecommercedb.com in Store Ranking & Overview.

Portugal is the 45th largest market for E-commerce with sales of more than 4 billion dollars in 2021, setting it beforehand of New Zealand and at the back of Ireland. With an increase of 15%, the Portuguese E-commerce marketplace contributed to the global increase rate of 29% in 2021. The largest player in the Portuguese E-commerce Market is Worten.pt having revenue of US$267 million in 2021. It is accompanied through zara.com with US$205 million sales and elcorteingles.pt with US$161 million sales. Altogether, the top three stores account for 15% of online revenue sales in Portugal *(Source: Ecommercedb.com)*.

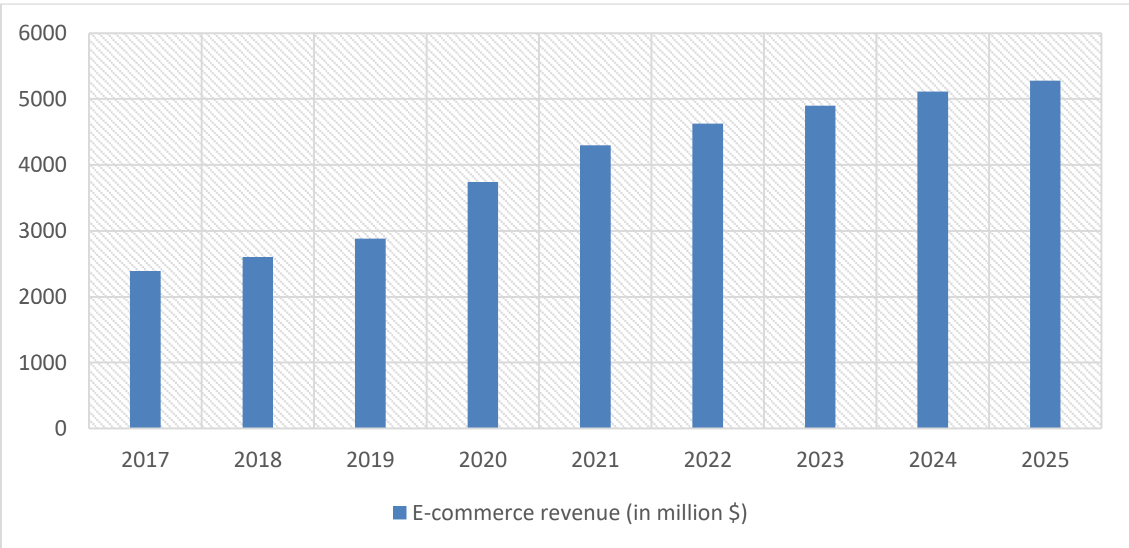

Figure 3- Retail E-commerce revenue in Portugal (2017-2025), Data Source for figures: Statista-Key figures of E-commerce Portugal

2.1.2. Pandemic Implications

Pandemics have influenced the world in many ways. Disasters and pandemic crises have a significant impact on receiving behaviour from a variety of perspectives. These shopping behaviours are likely to become the new normal behaviours after a pandemic, as spending on online purchases and grocery deliveries has skyrocketed during the pandemic. The most important changes in shopping behaviour are centered around online grocery shopping. It is booming with new and existing customers who support online platforms that can help them survive and adapt to pandemics. Luxury goods retail is also on the rise, with both single-brand and multi-brand luxury stores attracting a wide range of consumers, primarily from online shopping channels (Hwang et al., 2020).

Researchers have found that multi-brand shop customers are much more likely to make price-brand comparisons because they convey more types than single-brand shops. This is much more likely to happen if the sale is made through an online platform. With a wider range of choices, customers typically tend to interact with a brand, item, and price comparison. Therefore, they suggest that a hedonic shopping experience can significantly reduce a customer's price sensitivity. Google Trends statistics show a time-shift from stationary sales to online purchases and a significant easing of demand in the gastronomic and retail sectors. A partial lifting of restrictions has been observed to improve performance in some sectors (retail, food transport, consumer durables) in June 2020. While the restaurants, vacations and entertainment industry remained sluggish (Creighton et al., 2020).

Despite the stability and security of cash flows provided by long-term leases and fixed rate rents, tenants have a lease term to accommodate changing space needs when there is additional bargaining power. We are increasingly looking for flexibility. Tenants have favoured the essentials of flexibility, this can be explained by changes in the tenant's business model. Also, it could become the standard after the COVID-19 pandemic due to changes in tenant inventory. When retailers seek to get out of the pandemic impact, the main requirement is to optimize the combination of the company's offline and virtual presence, realign its strategic focus, and reposition its key business goals (Sanderson and Read, 2020).

In Portugal, the Trade sector, closely penalised by the COVID-19 pandemic, registered decreases in the main economic indicators (even though barely much less accentuated as compared to the non-monetary commercial enterprise area as an entire in 2020).

In 2020, regarding large-sized business units:

- The total number of establishments increased by 1.4% (+1.5% in 2019), with a particular focus on the non-food retail segment (+2.1%; +1.7% in 2019).
- Sales grew by 2.9% in food retail and decreased by 18.8% in non-food retail.
- The sales of own-brand products in food retail units represented 38.0% of overall sales (35.4% in 2019), corresponding to an annual increase of 10.6%. (*Source: Syn Thesisine@Covid-19 23-December-2021*)

Table 1- Year 2020 indicators on trade enterprises & 2019-2020 yearly change by INE in Syn Thesisine@Covid-19, 23-Dec-2021

	2020	2019/2020 rate of change
Enterprises (No.)	218.9 thousand	-0.2%
Persons employed (No.)	803.7 thousand	-0.6%
Turnover (EUR million)	141.2 thousand	-6.5%
Gross value added (GVA)	18.7 thousand	-5.6%
Overall commercial margin (EUR million)	25.9 thousand	-4.5%

In February, retail sales dropped by more than 15%. The market did, however, respond favorably as Portugal started to loosen its confinement policies in the second quarter of 2021. Retail sales in Portugal grew in Q2 2021 compared to the same period in 2020 and 2019, according to the INE (National Institute of Statistics). Between April and June, retail sales climbed by 16.8% compared to the same time in 2020 and by 8.1 compared to the first quarter of 2021. It was up 2.2% in comparison to the second quarter of 2019 before the epidemic. Keeping in mind that the comparison's focal point, the 2020 pandemic month, will have a considerable impact on these outcomes.

Retail was still significantly impacted by the time and capacity restrictions placed on commercial operations in the first half of 2021. However, during the pandemic crisis' recuperation, street traders and vendors showed incredible fortitude, and the market introduced fresh goods and brands, particularly for the hotel and fashion sectors. In the first half of 2021, 60 new stores were opened in Lisbon, with more than 50% of them being related to the restaurant business and 17% to the fashion & accessories sector. The number of new stores opened during the same period in 2020 fell by 24%, and this decline was even more pronounced when compared to the same period in 2019, falling by 61%. (*Source: Savills Research-Portugal H1 2021, Market in Minutes*).

Other long time affecting elements are: -

- *Home vs work*- A pandemic can permanently change your work behaviour, as working from home one or two days a week is becoming more and more routine. This also affects roads in the city center and suburbs. At maximum levels, a four-day work operating system will undoubtedly shift 20% of permitted lunch and night spending from the city center to suburban boulevards. While this will significantly reduce the sales and profitability of traditional urban retail and entertainment businesses, it may also open up the opportunity to move to traditional boulevard locations to improve teleworking services
- *Self vs stuff*- Spend behaviour and demand have changed due to the shift from spending on "things" to spending on "self." Since 2013, none of the 10 retail subcategories with the highest net growth rates of stores have sold physical products. Instead, the top 10 sectors focus on "self" and focus on personal health, hair, beauty, or sociability.
- *The high street of the future*- The COVID-19 pandemic has doubled some of its already undervalued features and is now increasingly incorporated into shopping habits. These characteristics can be defined as a set of responses to consumer norms established over the last 40 years *(Source- What next for the high street? Deloitte UK)*.

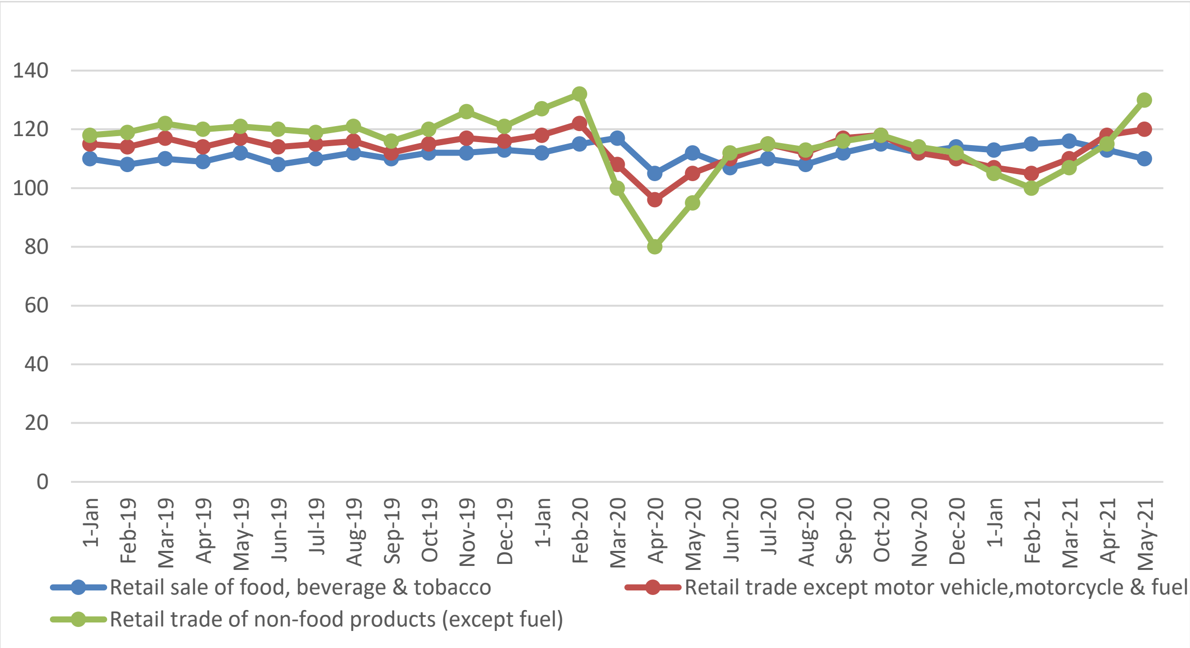

Figure 4- Volume of Retail Trade Index by Savills Research in Market Overview - H1 2021 - 15 Months of The Covid-19 Pandemic

2.1.3. Smaller Towns are Seeing Sales Return Sooner than Big Cities

In the retail industry, coupled with the number of local workers, small cities benefit faster and have a better balance of places to return to shopping than returning to big cities.

As many consumers are still avoiding purchases on the physical stores, the similar goes for places of work and jobs *(UK's Google's Covid-19 Community Mobility study reported -29% against baseline for workplaces and -12% against baseline for retail and recreation).* Cities like London have found a slower recovery than in places like Huddersfield, Blackburn and Middlesborough, especially in some smaller cities in the north. Large centers rely on office workers to return to a recovery in the spending, so there has been a clear gap between cities and towns since the reopening of non-essential retailers. Cities such as Basildon and Birmingham are benefiting from spending rebounds, while big cities such as Manchester and Birmingham are struggling *(Spending data by Centre for Cities, UK).*

2.1.3.1. City vs local

The pandemic accelerated the trend towards localization as telework replaced commuting and shopping was mostly confined to local high streets. The range and quality of locally available products and services has surprised many and built up enthusiastic support from those who have fostered loyalty to local businesses. In a recent Deloitte survey, 57% of consumers say they are more likely to spend money on companies that offer locally made products once the blockade is over.

2.1.3.2. Chains vs independents

As retail chains shrink the size of their store portfolio, independent retailers have jumped at the opportunity to take advantage of free space. Since the beginning of 2017, it is estimated that the number of chain stores nationwide has decreased by 5.97% and the number of independent stores has increased (accelerated) by 1.28%. *(Source- What next for the high street?, Deloitte UK).*

2.2. Changing Nature and Scale of Retail/Shopping Activities (Planning)

The relationship between retail and city planning policy has evolved into a stronger link. The shift from urban retail policy, which is based solely on industrial regulation, to a modern understanding of retail as a fundamental element of urban development has led to greater involvement in space planning. At this stage of urban entrepreneurship and tourism growth, where cities claim to be commodities, retailers have emerged as the basis for solidifying new urban strategies.

Since the mid-20th century, the outward spread of cities, new patterns of retail stores, and the decline of the city center indicate a transition to a "modern" automotive-based society. The first attempt to link retail policy to urban planning took place in 2005, focusing on the ancient distribution of retail centers by Berry and Garrison based on the central square theory adapted to the size of the region and city. These principles continued to be reflected in land use plans, often in more open and flexible applications, in line with neoliberal ideas predominant in some countries. However, the meaning of "best place" for business has changed and is now perceived to include not only physical locations and their accessibility but also habitability, landscape and symbolic implications.

Figure 5- Hundreds of automobiles viewed from aloft at Detroit's Northland Center, in 1954 by Time in The COVID-19 Pandemic Has Been Tough on Shopping Malls. History Suggests We Should Be Wary of What Might Replace Them (October,2020)

By the second half of the 20th century, cities were plagued by central and peripheral urban problems, a serious financial crisis, and a lack of work. Also, from an ecological point of view, this period was characterized by greater visibility into urban energy crises and urban risks. At the same time, we needed to build a smart and sustainable city with more environmental awareness and more responsible and participatory citizens. From a social perspective, the challenge focused on building a comprehensive city with equal opportunities for citizens to access services and participate more in collective decision-making. In 1993, the European Commission launched the *European Sustainable City Program*. The program sets out a set of principles to follow when planning urban sustainability goals, emphasizes the need for integration strategies, stakeholder cooperation and partnerships, and then unity and sustainability goals.

2.2.1. REPOSITIONING OF THE HIGH STREET

As a strategy, repositioning was developed based on the market theory of positioning and is defined as a change in the positioning of products and services, to dynamic market conditions. Therefore, relocation strategies are essential to keep the product attractive to consumers.

This concept can be extended to urban areas, as they need to anticipate, adapt to change and respond to external forces. Store formats have changed as per consumer preferences. Especially after the COVID-19 pandemic, vacant stores and vacant spaces in the mall demand the urgency and importance of short-term adjustments as well as long-term relocation strategies.

Relocation can be taken into account as part of the place-making strategy. The part of place marketing can be seen as a mechanism to enhance the competitiveness of places through the discovery and creation of uniqueness. This also points out that successful relocation cases do not necessarily replace existing markets. Instead, you need to adapt to your local services and products to suit your tastes and preferences. It is also described that relocated locations, including major roads, must meet user expectations and demands through development or reinvention.

Figure 6- High street stores, London by Savills in Spotlight: Shopping Centre and High Street (August, 2020)

High Street is not as monoculture as the city centre (offices) and shopping centers (retail and leisure). Retail accounts for an average of 29% of UK High Street occupancy, with the rest contributing to residential, office, leisure and community occupancy. Such diversity can make it difficult to define a country's high streets, but in a landscape that appears to have changed radically (and permanently) as a result of the recent pandemic crisis. In the long run, it may also hold the key to recovery from a pandemic.

In addition, high street ownership is fragmented, with a high percentage of small independent landlords unable to afford vacant properties and lower barriers to entry for SMEs trying to test new concepts. Unfortunately, these new ventures can experience a high degree of failure. However, the speed at which new ideas are born and tested means that the main street can evolve rapidly to directly reflect the needs and desires of the local community. A large oversupply of retail space in a commercial center should be managed and ideally used for other purposes. This requires sensitive and constructive support from the planning system to restore the balance between supply and demand. To secure long-term and sustainable rent, it is necessary to identify the source of funding to fund the conversion and rebuild the relationship between the landlord and the renter.

2.2.2. Concept of Demalling

It is essential to have a justification for choosing which malls compete with one another in understanding why stores are continuously established and closed in any commercial centers. This competition establishes each mall's market region, which facilitates monitoring entry and leave as well as determining whether or not each store is successful or losing money.

2.2.2.1. What are Dead malls?

The mall is not resistant to deterioration despite its success as a retail concept. Depreciation may apply to shopping centers created through a mix of commercial and real estate development. Due to escalating competition and the fact that some businesses that own shopping malls believe the centers are nearing the end of their useful lives, the same retail space may be deteriorating. This process is not inevitable and is influenced by a variety of variables, including the size of the retail complex and the level of nearby competition. Additionally, e-commerce has grown in importance and is displacing traditional retail ideas like malls by acquiring market share. In truth, retailing has changed significantly and in many different ways as a result of the Internet and online buying, plainly having an impact on the physical locations. *(Guimaraes, 2018)*.

Despite being a popular retail idea, shopping centers need to be renovated on a regular basis without sacrificing their potential to make money. An increase in open space is one of the earliest indications of poor profitability. The value of rent is spiralling downward, and soon new, less desirable stores may take advantage of the situation and occupy some space. In the end, this starts a procedure that is frequently referred to as a "dead mall."

Figure 7- Dead malls from 1950's in United States by BBC in The death of the US shopping mall (October ,2014)

This idea was primarily used to explain how the demalling process worked in the context of North America. This does not, however, obligate the shopping mall to shut its doors. According to some, shopping malls are "living environments that generate atmosphere and activity," in part reflecting the viability of these retail spaces economically.

As a result, if a certain mall has a high proportion of empty stores, we can say the mall is dead. The researchers in many articles have used the 70 percent free space value as a criterion that might be regarded a dead mall beyond that because there is no official and commonly accepted standard. This phrase is frequently used interchangeably with the phrase "*grey field*".

The term "*greyfield*" was used in a 2001 Congressional study for New Urbanism and Pricewaterhouse Coopers to "*define retail sites that require major public and private-sector involvement to reverse decline*". In relation to suburban shopping complexes, the term "*greyfield*" *(or failing retail malls)* refers to locations that can be profitably transformed into walkable, mixed-use neighborhoods. The distinction between dead malls and greyfields can be made by the more advanced state of decay of the former.

The ideas of Dead Mall and Greyfield are closely related to the cycles of investment, divestment, and capital reinvestment. As more malls are built, the market will eventually become saturated. This scenario is not new; according to a research by *Wakefield and Baker (1998)* about the United States, mall area was rising more quickly than sales around the turn of the millennium (during this period, mall sales were actually declining). The Schumpeter Theory of Creative Destruction can be used to explain this process, as the

"…process of industrial mutation—if I may use that biological term—that incessantly revolutionizes the economic structure from within, incessantly destroying the old one, incessantly creating a new one. This process of Creative Destruction is the essential fact about capitalism" (Schumpeter, 1950).

Shopping malls are seen as both commercial development and a subset of real estate investments and goods, including "real estate investment trusts" from the financial markets. These are "enough to guarantee a return on the first investment," according to the developers. David Harvey proposed a theory for this process. According to this scholar, the processes of capital accumulation are linked to investments in urbanization and the built environment. An illustration of such a process is investing in a shopping center. According to this theory, the ongoing creation of new retail space is a type of capital accumulation. As investment in new retail space results in the demise of the old, this places it under Schumpeter's theory of creative destruction. However, decline is expected as the mall ages. According to *Guimaraes (2019)*, several process might be put in place in older retail complexes to ensure their financial viability.

2.2.2.2. Defining Demalling

Demalling becomes a valuable notion in this context for examining what happens to closed malls. When it first began, demalling was quite similar to what is still happening in North America now. In particular, it speaks to what happens when the shopping area approaches dead mall status. It "involves either the demolition of existing shopping malls or the conversion of closed malls into open-air shopping spaces [...]," according to *Reynolds et al. (2002).*

But this is a highly constrained definition of the process. Since "developing open areas to host complimentary entertainment/food-court attractions" *(Reynolds et al., 2002)* seems to be a fairly regular element of modern malls since at least the 1980s, the comprehension of these author's process is a perfect fit for old and outdated malls. A more comprehensive understanding is required because there are many situations in reality. For this author, deconstruction refers to the process by which a retail center is turned into something else or given new utility. *Tamini's* (2018) treatment of this topic is more pertinent in this regard.

Figure 8- Highland mall, re-inhabited by Austin Community College and parking lots being redeveloped with offices and housing by REEF in REAL ESTATE: The Death and Life of American Shopping Malls (December, 2020, Photographer: Phillip Jones)

Demalling is already a reality in Europe. Still, the process is more advanced in North America, where some examples can be seen. After its demise, Michigan's Center Point Mall was reopened as a successful powerhouse in 2014, with some still focusing on retail functions. The reorganization focused on increasing the size of each store while reducing the size to almost half the original size and reducing the total number of stores. A study by *Bernhard (2008)* also gives some examples of how some abandoned malls and large department stores in the United States were refurbished to give way to schools. In some cases, the solution was to convert the mall from a closed building to an outdoor space. In addition to this reform to a different retail concept, a variety of different solutions and new features such as housing, civic centers, medical services and cultural centers are important. These latter examples show that despite the collapse of the mall, abandonment can be seen as an opportunity rather than a fatal one. *Dunham-Jones and Williamson (2008)'s* view of this issue is that greyfields in the suburbs, such as dead malls, offices, and industrial zones, may transform into more environmentally friendly and more sustainable urban spaces, is shown in the following figure.

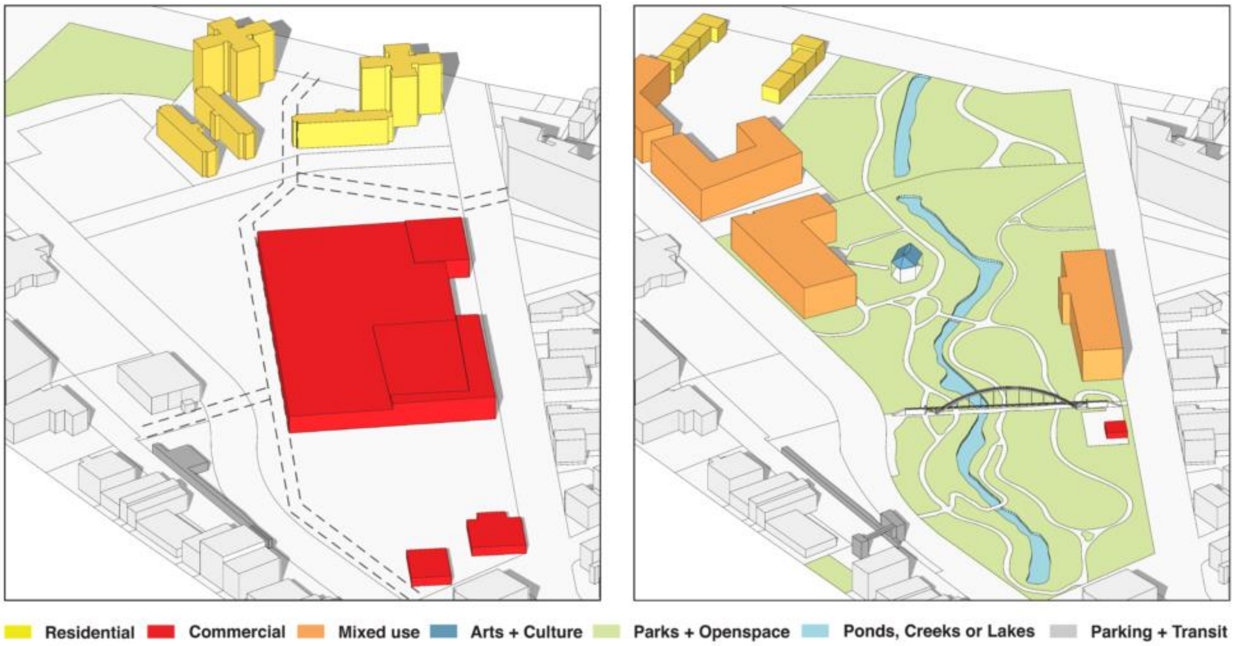

Figure 9- Before and after diagrams of Meriden Green by REEF in REAL ESTATE: The Death and Life of American Shopping Malls (December, 2020, Source: June Williamson)

Facing in the same direction, these refurbishments, designed as "*retrofitting suburbia (suburban refurbishments)*" could ultimately provide the ability to bring these urban spaces closer to traditional ones, in the region and the city center, which can lead to a significant increase in its functional value. In a study developed by *Dunham-Jones and Williamson (2017)* explains for over a decade, 1500 shopping centers were developed in the United States, of which more than 300 experienced some kind of repair, transformation, green infrastructure consolidation, or renewal. These interventions "offer chances to re-localize economies with more community-serving uses and retain the embodied energy of the real-estate product shells that remain," according to these authors. The examples mentioned above also take into account a type of planning known as incremental urbanism, which makes use of and modifies existing physical structures while retaining or changing the primary function of a shopping center.

2.3. Reflect on the Potential of Urban Liveability Generation Associated with Shopping Activities

In order to provide goods and services to city residents and tourists, the retail sector is crucial. A sizeable portion of the workforce is employed there, and it also supports the local economy, raises taxes for the government, encourages regional development, and increases the region's asset value. It also contributes to the sense of vitality in urban life, which is directly related to the movement of people in the retail sector, and has an impact on the expansion of urban areas *(Mazza & Rydin, 1997)*.

By definition, the regional economy is cyclical from the beginning to the end of the production process in terms of regional resources. Cities should think about taking on a bigger role in sustainability in order to avoid being at the bottom of the consumption chain. Supporting local investment in regional manufacturing and consumption can be advantageous to local retailers and even help them develop a distinctive brand. Furthermore, it goes without saying that circularity safeguards SME's *(Small-medium enterprises)*, which improves the regional economy and generates activity and jobs. This investment by a huge firm is more long-lasting than any other since it focuses great efficiency and low cost and is typically based on global economic trends. Retail both fosters urbanity and adds to its problems. An indication of a city's quality and vibrancy, retailing is specific to that city and its social interactions. Retail generates activity and shapes urban areas because it is geographically tied to urban notions like centers, squares, and main streets.

2.3.1. Retail in the Neighborhoods

Regardless of the makeup of the city, many medium-sized European cities today want to compact their city centers in an effort to rebalance footfall flows and bring people back to a smaller, busier center, making them more vibrant and wealthy economically. The entire compacting process is laid out in the section on compacting metropolitan areas with an eye on retail revitalization. However, if we focus too much on the city center, we run the risk of neglecting the rest of the city and the shops in your neighbourhood. Planning at the local level entails integrating tactics and strategy, or shifting and reshaping the level field. Prior to making plans, we must first ascertain the actual needs and preferences of the residents. The foundation of a person's quality of life is in this area.

As a result of urban dwellers' usage of and empowerment over local retailers, there is a clear alignment between housing and retail policies. Enabling hybrid usage of buildings where work, life, and services coexist makes sense when encouraging this fusion of living and shopping. The "urban ecology" is made up of a complicated web of many activities that are constantly being altered. These actions constantly interact with one another and cannot be broken down into individual aspects.

Therefore, two crucial factors for wellbeing and quality of life must be considered in city planning:

1. Mixed uses: Our urban environment is home to nearby uses like schools, playgrounds, main streets, stores, places of worship (church), residential areas, mixed workshops, and simple access to essential services, among others, must be able to merge and include urban areas.

2. Proximity: Some city planners use the 400-meter rule as the fundamental guideline when making plans for pedestrians, as shown in Cerda's Example in Barcelona (the Extension), which was designed and built in the middle of the 19th century.

Figure 10- A small barber shop attached to a commercial building in a northeastern Australia coastal town. Small storefronts like this are one part of the vision advocated by supporters of the 15-minute city by Triplepundit in CONSUMER TRENDS: Can the 15-Minute City Inspire Renewal for Businesses and Communities Alike? (August,2020)

2.3.2. Proximity as a Key Retail Factor

The number of visitors is typically negatively impacted by the distances to the city's numerous stores and services. In order to plan a commercial area spatially, medium-sized cities must investigate and densify their downtowns. The 400-meter rule makes it unnecessary for everyone in the area to walk more than this distance to access common services and stores.

Densification aims to restore the city centre's allure to residents, locals, tourists, and visitors. With densification, cities are shrinking in size while increasing the appeal of the remaining square meters, filling vacant spaces, and generating a buzz throughout the metropolis. Additionally, by preventing locals from traveling within the city or to shopping malls outside of it, it lessens the need for transportation, particularly private cars.

2.3.3. The Benefits of Supporting Local Businesses

Everyone is aware that the nearby firms require assistance, purchase, dine, and travel locally. Local purchasing, however, can be challenging owing to cost, accessibility, and convenience. Supporting community initiatives is still important and desirable.

When it comes to assisting small businesses in their town, residents support not only the neighborhood but also one another. Going local is beneficial in the long run for a number of reasons *(Source: Supporting local business, Minuteman Press)*: -

1. Empowering the local economy: According to economists, for every dollar spent on an independent business, three times more money is returned to the local economy than a large chain (compared to online retailers as 50 times). This money will be returned directly to the communities in which we live and work and will help support programs that are valuable to you and your family. Also, SMEs often give back to the community in other ways, through donations, purchases, or financial support from other independent groups. Developing strong SMEs creates stronger communities and economies.

2. Create more jobs: Buying locally will strengthen the local economy, but it will also help create jobs. Those jobs could go to our friends, family, or neighbors, that is, people who are more likely to face more competition in large chain stores.

3. Reducing environmental impact: Local businesses often procure their products more locally, reducing the need for transportation and outsourcing. They usually occupy less land, are closer to residents and do not cause traffic or air pollution. All of this reduces congestion, reduces habitat loss and reduces environmental impact. Even if it doesn't affect an individual immediately, it can certainly affect children and grandchildren in the future.

4. Low taxes: Small businesses use land efficiently and are in a central location with less need for roads, sewers and security services. In addition, independent companies often have higher tax revenues per euro of sales. This means that most local businesses help keep taxes low compared to megastores.

5. Improving family's health: Local grocery stores and restaurants are often healthier options for individuals and families when it comes to purchasing produce and choosing restaurants. Also, buying local food has many health benefits—opening individual up to the world of fresh eggs and dairy provided by grass-fed cows, organic fruits and vegetables.

Thus, we can conclude that only supporting the local businesses in the neighbourhood could be beneficial for empowering the nation's economy, further creating more jobs and less taxation. It also reflects that we depend less on transportation facilities resulting in further lowering the environmental impact. Lastly, as per an individual's perspective, it is also healthy to consume fresh food in terms of grocery, fruits and dairy products.

3
OBJECTIVES & METHODOLOGY

Innovation and technology are primarily retail-related, whether triggered by actors associated with the retail sector or at any time in response to social change in society. Due to this, the commercial centres that have dominance and successes in the past are either declined or are on the verge of decline. Unfortunately, the number of declined malls has been rising in Western Europe and concerns the need to examine the commercial areas of Porto city as it consists of commercial centres in service for a few decades.

In this study, we would like to answer the following research questions: "Is there a demalling process in Porto?" If so, "What are the areas affected by demalling? The areas of Porto Municipality or the Metropolitan Area of Porto" and finally "What are the functions of the process?". For this, we need to study the current challenges that are being faced by the retail commerce and commercial centres. Also, we light on sectorial changes such as the success of online stores and its impacts on traffic movement towards e-commerce to understand the background of the problem. Understanding the effect of the pandemic has acted as a catalyst in the booming of online retailing. In addition, the latest trends in high street stores and stand-alone stores are becoming more and more popular, leading to challenges in planning, commercial center decline, demalling, and reduced demand. Further, we study the potential of neighbourhood retail in increasing urban liveability and resilience.

Porto as our case study, we focus on the areas as Area Metropolitian do Porto & Porto Municipality (Porto city) for understanding the evolution of commercial centres and commerce. Further, in both the mentioned areas, we compare how the development of commercial areas has been planned in the past and the effect of this relationship between both areas. This task is in accordance to answer “the existence of demalling in Porto” & “the areas affected by demalling”.

This research is tied up between qualitative and quantitative approaches: -

We generate a list of all commercial centres in Porto Municipality from the year 1976 onwards when the development of commercial centres began in Porto with Shopping Centre Brasilia as the first commercial centre. Another list prepared includes large commercial centres (an area greater than 20,000 sq. m.) in AMP. This research also required fieldwork and surveys for collecting all the relevant data from each commercial centre. The data collected is the information such as the commercial centre’s location, number of shops, starting year of service, vacant shops/outlets, number of floors, and commercial-retail area (sq. m). which is essential for the study analysis.

Further, from the data of total number of shops/retail outlets and current vacant outlets we calculate the vacancy percentage from the following formula-

$$\frac{Number\ of\ vacant\ shops}{Total\ number\ of\ shops} \text{ X } 100 = \text{Vacancy percentage}$$

After calculating the vacancy percentage of all the commercial centres from Porto city and AMP, we categorise them into typologies based on varying percentages from Type 1 being the least vacant to Type 4 being the most vacant commercial spaces. We also collect the available commercial data from INE Statistics for supporting our study analysis.

With all the data collected we found the possible patterns of commercial centres decline inside the Porto Municipality and AMP. We also search for the possible reasons for decline or growth in individual's case of commercial centres supporting "the main characteristics and degree of demalling in Porto".

In last, we conclude this thesis by stating the scope and limitations of the study and contributing literature to the demalling and conditions of commercial centres in Porto.

4
CASE STUDY – PORTO

4.1 BACKGROUND

Porto or Oporto is the second largest city in Portugal, one of the most important urban areas of the Iberian Peninsula. Porto, which represents the entire city of Porto, is far smaller than the metropolitan area and has an estimated population of 231,962, which is only 41.42 km^2. The metropolitan area of Porto has an area of 2,395 km^2 (925 square miles) and is home to approximately 1.7 million inhabitants (2021), making it the second largest urban area in Portugal.

Recognized by *Globalization and the Globalization and World Cities Network* as a global city with a gamma + rating. The urban structure of Porto was characterized by the construction of the first social housing built for the specific purpose of eradicating all substandard housing from the city.

Figure 11- Porto City, Portugal by David1010 (November,2016)

Located at the mouth of the Douro River, Porto is one of the oldest centers in Europe, the core of which was described by UNESCO in 1996 as *"Historical Center of Porto, Ponte Luiz I, Monastery of Sera do pilar"*. It was registered as a heritage site. The western part of the city extends to the Atlantic coast. Its occupation dates back to centuries, when it was an outpost of the Roman Empire. In Portuguese, the name of a city contains a definite article: *"o Porto"* (port or harbor), the English name Porto.

4.2. EVOLUTION OF COMMERCIAL CENTRES/MALLS IN PORTO CITY

In Portugal, the delay in modernization became even more pronounced under the influence of a dictatorship that supported protection against the entry of foreign companies and did not encourage investment by large retail developers until 1974 *(Guimarães, 2018)*. The administration, coupled with low-population purchasing power, did not allow less restrictive retail planning policies to promote access and widespread adoption of new retail concepts and promote modernization of the country's retail sector *(Barata-Salgueiro, 1996)*. Since then, the number of new shopping centers has increased significantly due to the implementation of more liberal policies and the improvement of people's living environment.

The ordinance was enacted in 1985 and was defined as a shopping center in a single building that united all developments. There was a basic management system. It works during normal working hours. Due to the slow introduction of capital associated with large-scale retail development in Portugal, the first phase of shopping centers is characterized by small-scale development, primarily involving local developers. These local developers, who were responsible for the construction of these first-generation malls, regarded these retail spaces as pure real estate development. Porto's urban retail system is still strongly characterized by the presence of traditional organizations in its retail structure, and the city center still plays an important role in the city and is seen as an important commercial destination. Not only is it the area with the city's most famous streets, monuments and other cultural facilities, but it is also a lively meeting place for locals, where famous cafes and terraces are becoming more and more important.

In Porto, new shopping centers have been developing around the city, changing not only the cityscape but also the consumption and socialization habits of Porto's inhabitants. Also, some of these commercial centres had one or two cinemas, which acted as a powerful magnet for the population. Among the most famous shopping centers in the city of Porto and its metropolitan area is *Brasília*, the first shopping center to open in Porto. It is located on the corner of *Avenida da Boavista* and *Praça Mouzinho de Albuquerque*, known as *Rotunda da Boavista*. It was an important milestone in the history of Porto's trade. The 6 floors of *Shopping Center Brasília* are divided into around 250 stores, with parking spaces of around 17,000 m², Cedofeita Shopping Center was developed in 1978 located on *Rua de Cedofeita* and Centro Comercial STOP was developed in 1982 located in *Rua do Heroísmo*, next to the Military Museum of Porto, was the first of its kind to appear in the eastern part of the city.

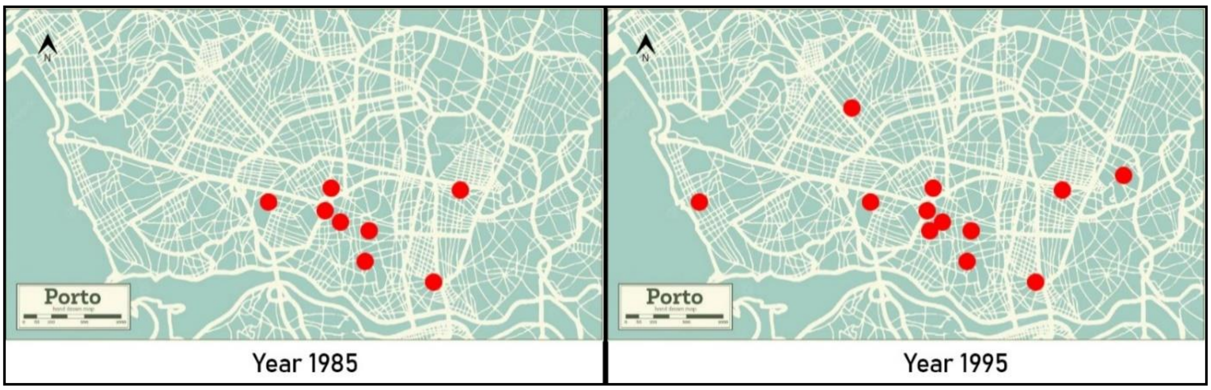

Figure 12- Commercial centres development in Porto from 1985-1995 by Author (May,2022)

However, despite being well received and profusely frequented by the population, from the mid-1990s onwards, the activity of these commercial spaces would go through a dark period, difficult to overcome. Due to a myriad of contexts, many of them succeeded and that are interconnected and/or successive among themselves, such as the process of suburbanization, the desertification of the city, the closing of cinemas in Porto, the lack of security conditions and aging of structures, the banalization of the automobile, and, above all, the emergence of large shopping centers, the so-called shopping malls, on the periphery, led to the emptying and loss of life of shopping centers in Porto.

Development primarily began near the city center of Porto, namely in the areas of *Cedofeita, Santo Ildefonso, Sé, Miragaia, São Nicolau and Vitória*, as they were evolving with both residential and commercial infrastructures in 1980's. As mentioned earlier, this is due to the late arrival of large retail developers in Portugal in late 1990-2000, causing an explosion in the development of commercial areas and different parishes were now having one or more commercial centres.

4.3. PORTO MUNICIPALITY

The municipality of Porto is made up of seven civil parishes (*Freguesias*). In fact, three of them are "*Uniões*" in Portuguese (meaning Union) of parishes that resulted from the administrative reforms that took place in 2013.

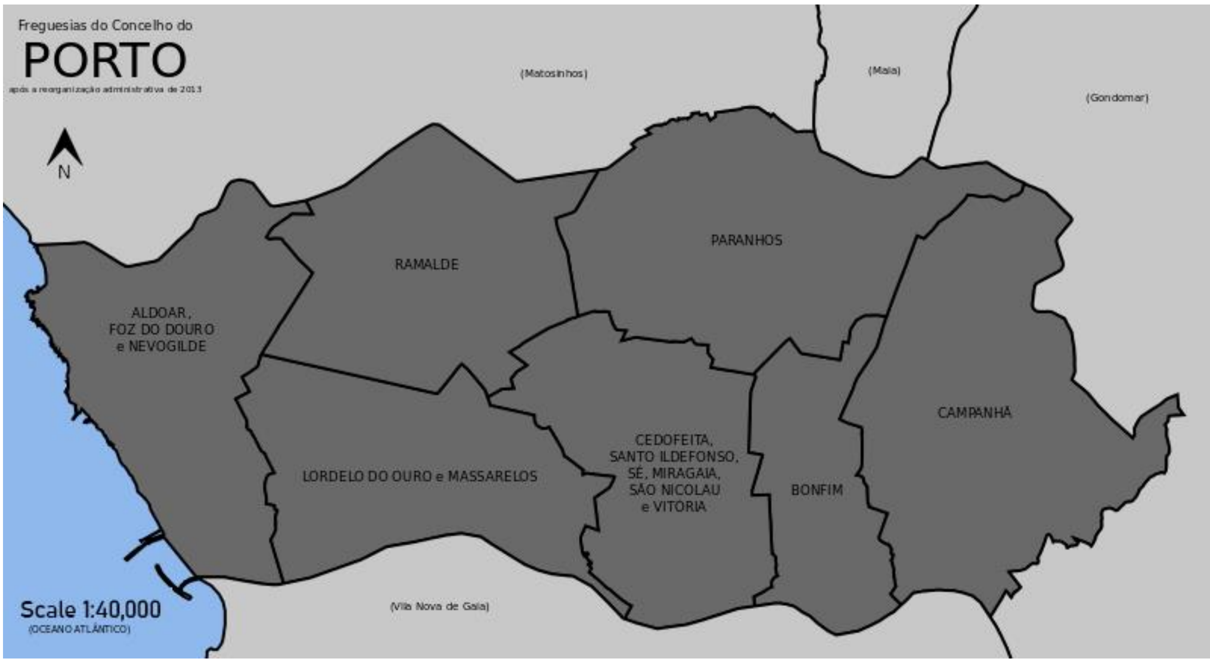

Figure 13- Porto Civil Parishes (7 Parishes) Source: Diário da República, Administrative reorganization of the civil parishes' territory, Law n. 11-A/2013, from 28th January & Direcção-Geral do Território, Official Administrative Chart of Portugal (CAOP), version 2013: Mainland (April, 2014)

In Porto, there are three unions and four parishes that have kept their configuration. The following table shows the population and area data for the parishes.

S.no	Civil Parish	Population	Area
1	Aldoar, Foz do Douro & Nevogilde	29,087 habitants	6.27 km²
2	Bonfim	22,981 habitants	3.10 km²
3	Campanhã	29,674 habitants	8.04 km²
4	Cedofeita, Santo Ildefonso, Sé, Miragaia, São Nicolau e Vitória	37,434 habitants	5.43 km²
5	Lordelo do Ouro & Massarelos	27,913 habitants	5.59 km²
6	Paranhos	45,890 habitants	7.17 km²
7	Ramalde	38,849 habitants	5.83 km²

Table 2- Population and area of Civil Parishes (Population data source- INE Censos 2021 Resultados provisórios)

4.3.1. Aldoar, Foz Do Douro and Nevogilde

The *União das Freguesias de Aldoar, Foz do Douro* and *Nevogilde* is a Portuguese parish in the municipality of Porto created within the scope of the national administrative reform, by Law nº 11-A/2013 of 28 January, aggregating the former parishes of *Aldoar, Foz do Douro* and *Nevogilde*. It has a total area of 7.36km2 and a population of 25,852 inhabitants (2017).

Figure 14- Map Aldoar, Foz Do Douro And Nevogilde Civil Parish by Idealista in Mapa de Aldoar - Foz do Douro - Nevogilde

Aldoar borders the municipality of Matosinhos (to the North), with the Atlantic Ocean (to the West), with the parish of Ramalde (to the East), with the parish of *Nevogilde* (to the South and West), with the parish of *Foz do Douro* (also to the south) and with the parish of *Lordelo do Ouro* (to the southeast). *Foz do Douro* borders the parishes of *Aldoar* and *Nevogilde* (to the north), to the parish of *Lordelo do Ouro* (to the east) and to the Atlantic Ocean (to the west). *Nevogilde* borders the parish of *Foz do Douro* (to the southeast) with the parish of *Aldoar* (to the east) and to the Atlantic Ocean (to the west).

Cemetery services are located at the *Foz do Douro* Complex (*Rua de Côrte Real*). At the *Mercado da Foz* is the Citizen's Space. This works as a one-stop shop that provides various services. This multi-service space thus becomes closer to the inhabitants of the *União de Freguesias*, who do not need to travel far to enjoy what the space has to offer.

4.3.2. BONFIM

Bonfim is a parish in the city of Porto, which has a history of 180 years. The parish of *Bonfim* was established on December 11, 1841 by a government decree signed by *Costa Cabral* during the reign of *Maria II*. Later, the parish was formed by small territories that were restrained to become the parish of *Sé,* and some of the territories of the parish of *Santo Ildefonso* and *Campanhã* were added.

In the mid-19th century, *Bonfim* became the main industrial center of the city of Porto, where the textile industry dominated. In the landscape, the tall chimneys and the hurried movement of factory workers stood out, which guided the daily life of the parish. In fact, during this period, *Bonfim* considered it to be the real industrial cluster with the highest number of workers and manufacturing plants recorded in the city. The large-scale factory installation in this eastern part of the city of Porto has expanded the housing solution called the " *ilha* " in Portuguese (meaning islands) This solution has spread a bit throughout the municipality, but there were more expressions in *S. Vítor*, *Gomes Freire* and *Praça da Alegria*. Many Brazilians have invested heavily in the community, not only in their homes, but also in weaving factories, pottery factories, and infrastructure improvements.

Figure 15- Map Bonfim Civil Parish by Junta de Freguesia do Bonfim in Mapa da Freguesia

More recently, the factories of other times stopped working and gave rise to different economic activities, such as commerce and catering, structures dedicated to education and health, banking institutions, small businesses and services, being important not to forget about tourism, which acts as a promoter of the culture and heritage of the parish of *Bonfim*.

4.3.3. CAMPANHÃ

With very fertile soil and abundant water resources with a privileged geographical location, the parish of *Campanhã* has always provided very favourable conditions for the settlement of the population. The oldest known reference to the *Campanhã* can be found in the 994 document *Rio de Campanhã*, where the expression "*Ribulum Campaniana*" was first read.

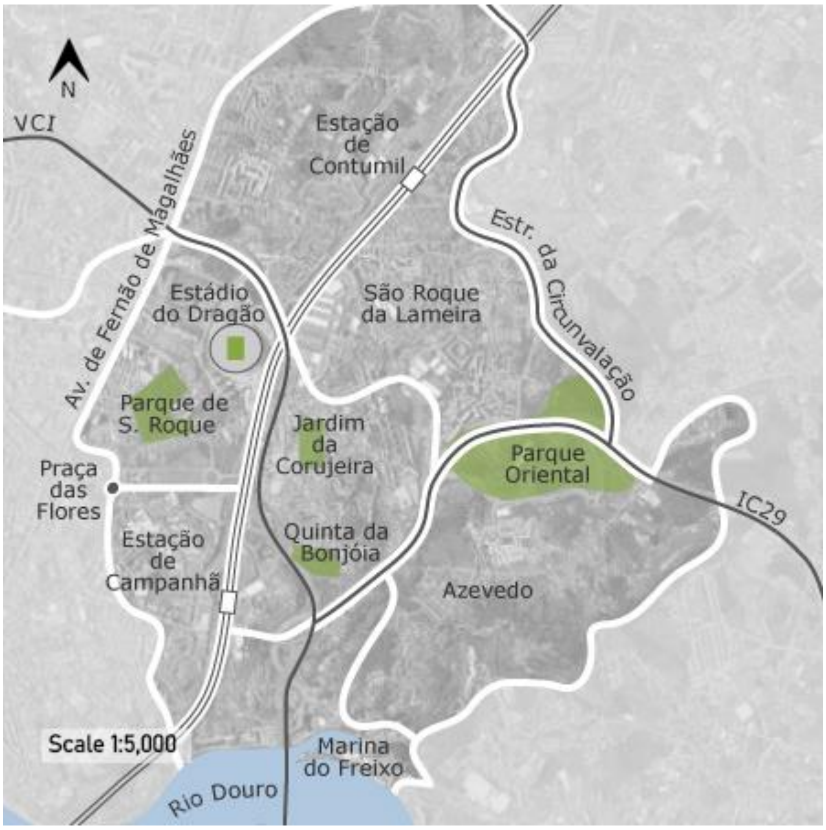

Figure 16- Map Campanhã Civil Parish by Idealista in Mapa de Campanhã

Due to its fully defined administrative status, *Campanhã* experienced a very significant expansion of its cultivated land in the last century of the middle ages, accompanied by a very expressive increase in its population. The community benefits from its vast natural resources and is gradually developing into an important agricultural reserve. Its main function is to provide the town with basic necessities. This economic expertise developed and deepened throughout the modern era and remained virtually unchanged until the beginning of this century.

The development of industry is mainly due to the expansion of transportation, especially railways. As early as 1875, it was possible to travel by train from *Campanhã* (*S. Roque da Lameira* branch) to Braga via the Minho line or to Penafiel via the Douro line. In 1877, the Maria Pia Bridge and *Campanhã* Station were opened in the *Quinta do Pinheiro* district. Today, *Campanhã* continues to divide between past rural traditions, living in many aspects of landscapes and everyday life, and increasingly visible modern features.

4.3.4. Cedofeita, Santo Ildefonso, Sé, Miragaia, São Nicolau and Vitória

The Parish Union of *Cedofeita, Santo Ildefonso, Sé, Miragaia, São Nicolau* and *Vitória*, also known as the Parish Union in the historic center of Porto, established by Law 11-A. It was created in 2013 by the merger of the former municipalities of *Cedofeita, Santo Ildefonso, Sé, Miragaia, São Nicolau* and *Vitória*. It consists of major commercial centers in Porto such as Centro Comercial of Cedofeita, Brasilia Shopping Center, ViaCatarina Shopping, La Vie Porto Shopping, Galerias Lumière, *Itália* Shopping Center, Centro Comercial *Capitólio* and Centro Comercial Invictos. There is also the capital district of Aliados, which is mainly famous for its monumental buildings that surround the center. It also consists of *Rua de Via Catarina*, Porto's main shopping district, and is famous for locals and tourists for its various high street outlets with cafes and restaurants.

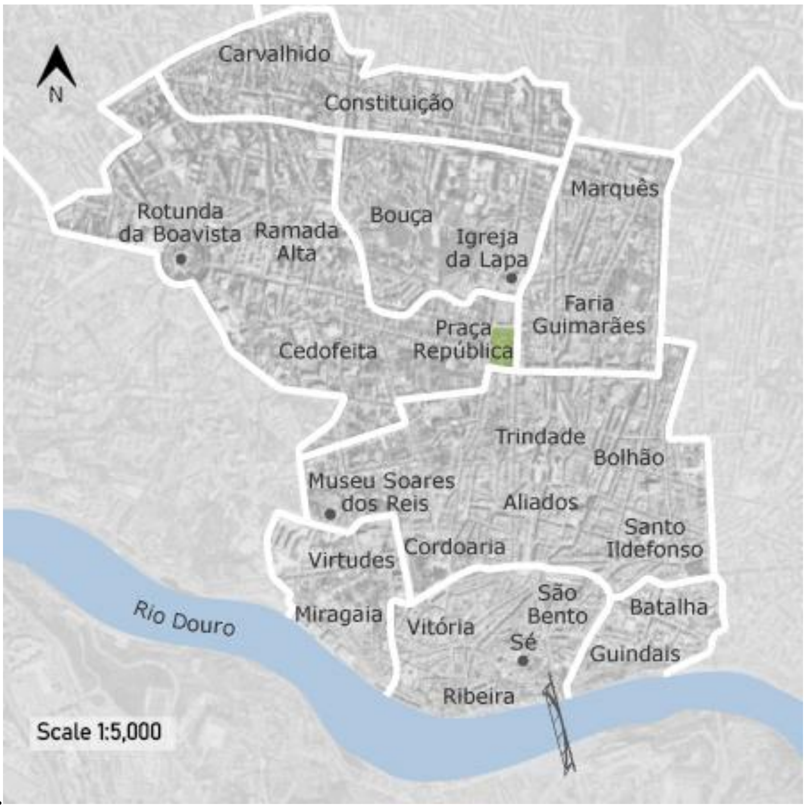

Figure 17- Map Cedofeita, Santo Ildefonso, Sé, Miragaia, São Nicolau And Vitória Civil Parish by Idealista in Mapa de Cedofeita-Santo Ildefonso-Sé- Miragaia-São Nicolau-Vitória

The Trindade subway station is also located in this municipality and is the only station where the A, B, C, E and F lines (which function as one line in the metropolitan area) intersect the D line. Located in the center of Porto, it is the busiest station in the system in terms of passenger numbers. Line D is preceded by *Aliados*, followed by *Faria Guimarães*. Line A / B / C / E / F platforms are above ground under a covered roof, and Line D trains are underground.

Avenida dos Aliados is Porto's main street and city center. Together with *Praça da Liberdade* and *Praça do General Humberto Delgado*, it forms a continuous urban structure. *Ribeira* is also one of the city's oldest and most typical places, adjacent to the Douro River and part of the UNESCO World Heritage-listed historic center of Porto. It is currently an area which is frequently visited by tourists and a place of concentration of bars and restaurants.

4.3.5. Lordelo do Ouro and Massarelos

The *Lordelo do Ouro* and *Massarelos* Parish Union was established in 2013 following the administrative reform of the parish, adding the former parishes of *Lordelo do Ouro* and *Massarelos*. Currently, there are about 29,000 inhabitants in a geographical area of 5.34 km2. With its rich heritage and landscape, the parishes of *Lordelo do Ouro* and *Massarelos* are one of the city's most beautiful green spaces, including the Parque de Serralves Foundation, the Crystal Palace and the Porto Botanical Gardens. Surrounded by the Douro River, along with the *Ponte da Arrábida*, an aggregator vector from *Massarelos* to *Lordelo do Ouro*, has a strong presence in the landscape of *União das Freguesias*. It has a variety of school-level infrastructure, social, cultural and sports support.

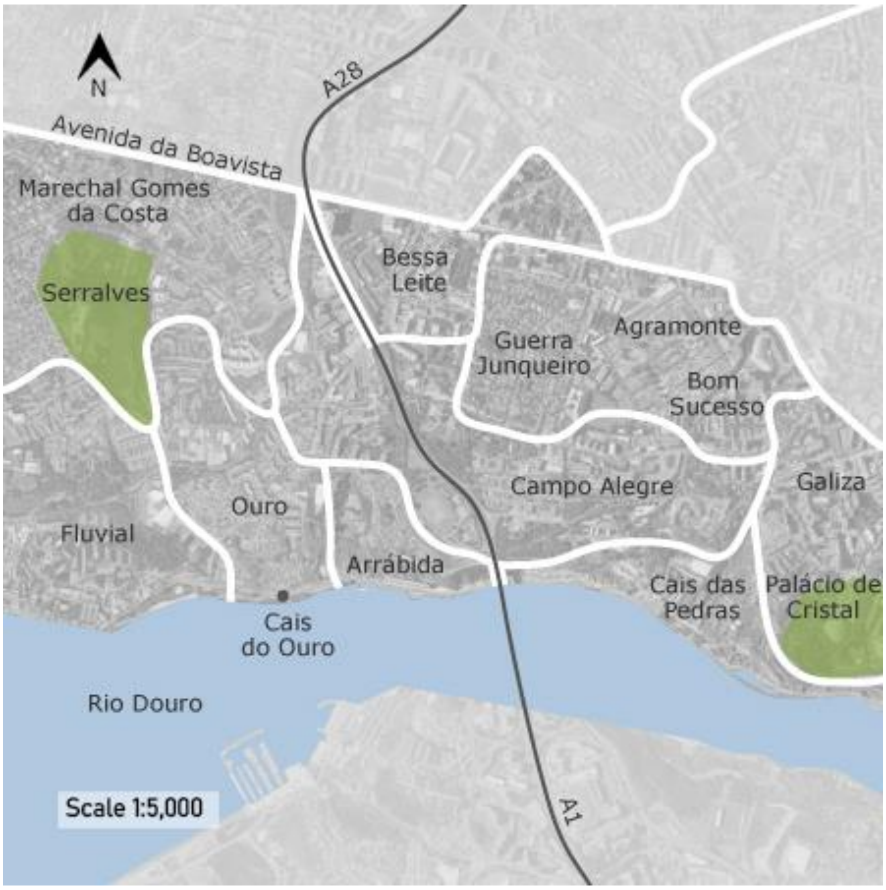

Figure 18- Map Lordelo Do Ouro And Massarelos Civil Parish by Idealista in Mapa de Lordelo Do Ouro - Massarelos

The union of parishes of *Lordelo do Ouro* and *Massarelos* is rich in communities and initiatives aimed at involving the inhabitants. The headquarters of *União das Freguesias* is located in *Rua de Serralves*, with an administrative extension to *Massarelos*.

4.3.6. Paranhos

The parish of Paranhos is one of the city's parishes of the city of Porto, which still holds the most popular traditions today. To the north, Paranhos borders with *S. Mamede Infesta*, the parish of Matosinhos, *Pedrouços*, the parish of Maia, and Rio Tinto, the parish of Gondomar. The east faces *Campanhã*. To the south are Bonfim, Santo Ildefonso and Cedofeita. The west side faces the parish of Ramalde.

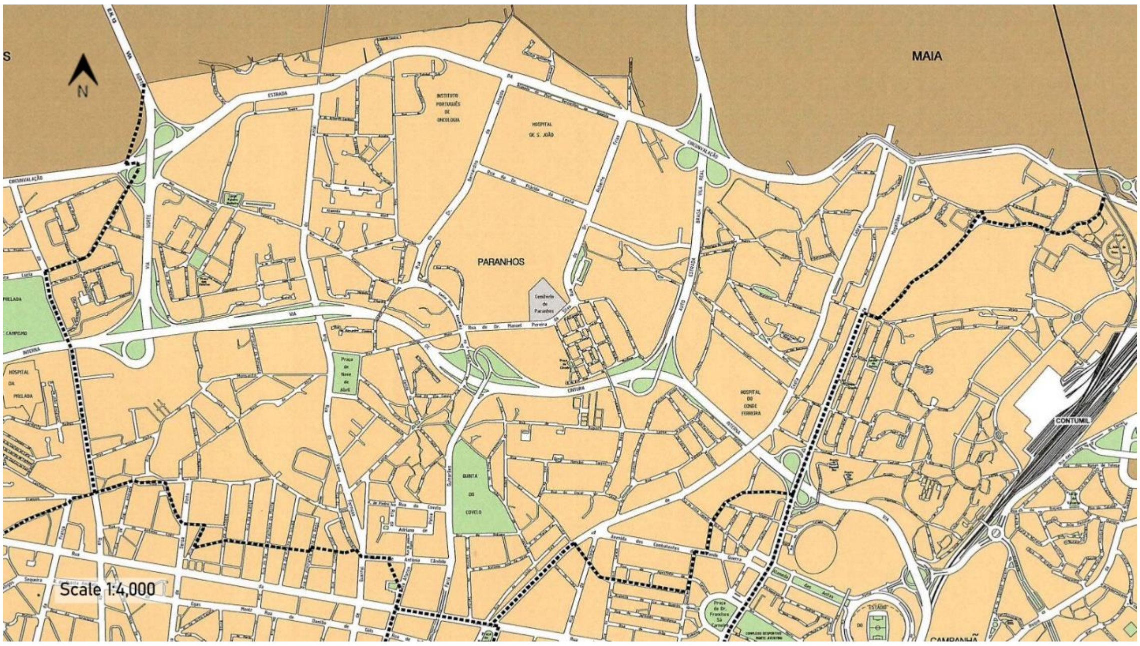

Figure 19- Map Paranhos Civil Parish by Freguesia de Paranhos in Mapa

Paranhos uses and customs are, on the one hand, the physical features of the past, the fertile soils that make up the nature of the countryside, and, on the other hand, the portraits of places that have shown their way for centuries. Today's Costa Cabral Road and Amial Road have in the past been the main access roads to *Guimarães* and Braga, respectively.

The transformation of Paranhos occurred primarily in the second half of the 20th century. As the number of inhabitants increased steadily, the landscape of the community changed. Many of the existing fields have been replaced by the construction of buildings, not only apartments, but also institutional buildings. It is an urban parish that brings cities, towns and villages closer to the city center by improving roads, including paving roads and paths, and is increasing the mobility of the population.

4.3.7. RAMALDE

The origin and growth of the town of Rianhaldy were lost before the establishment of nationality, probably between 920 and 944 when Benedictine monks arrived in the area. In this way, the history of the *Bouças* Court and its old monastery began. The area was owned by a patron of the royal family of *D. Sancho I*, who later donated it to her daughter *D. Mafalda* in 1196. At the time of *D. Sancho II*, this part of the territory was called Ramunhaldy and consisted of five regions: Francos, Requezendi, *Ramuhaldi Jusão* and *Ramhaldi Susão* (now *Ramalde do Meio*).

Between 1230 and 1835 it belongs to the parish of *Bouças* (or *Bouças de Matosinhos*), in addition to Ramalde, S. Mamede de Infesta, Matosinhos, Aldoar, Nevogilde, part of Paranhos (in the municipality of Porto), a set of over 20 villages. In 1895, according to D's royal decree. Carlos, Ramalde is integrated with the municipality of Porto together with Aldoar, Nevogilde and part of the current parish of Paranhos. Its limits were defined as follows: to the north, the municipality of Matosinhos (*Bouças*); to the south, the parish of *Lordelo do Ouro*; to the east, those of Paranhos and Cedofeita and, to the west, the parish of Aldoar.

Figure 20- Map Ramalde Civil Parish by Ramalde Junta de Freguesia in Mapa de Ramalde

Currently, 62% of the population works in the tertiary sector, followed by 37% in the secondary sector and a minimal 1% in the primary sector in the community gardens. There is also a drop in sociability and neighbourhood relations, which can be explained by a significant percentage of the active population working outside the parish, maintaining privileged contacts in different spaces. The opening of important road connections - which are of more interest to Greater Porto than to the population of the parish. On the contrary, the traditional relations of neighbourhood, solidarity and even mobility, in some parts of Ramalde, were strongly affected, with complaints being registered mainly in the *Francos* area and the Metro line when some road crossings were eliminated, by a significant proportion of the active population who work outside the community and maintain privileged contact in various areas.

4.3.8. Introduction about commercial centres

In Porto municipality there are many commercial centres, boutique centres, complexes and galleries. The evolution of the commercial started with the first mall of Shopping Centre Brasilia in 1976 and currently there are more than 15 commercial centres in the municipality. All the 7 parishes and unions have at least a single commercial centre, while the *Cedofeita, Santo Ildefonso, Sé, Miragaia, São Nicolau e Vitória* parish has the most number of centres. The commercial centre with their respective parish list is as follows: -

- *i.* Galeria Comercial Campus São João *(Paranhos)*
- *ii.* Centro Comercial STOP *(Campanhã)*
- *iii.* Centro Comercial de Cedofeita *(Cedofeita, Santo Ildefonso, Sé, Miragaia, São Nicolau e Vitória)*
- *iv.* Shopping Centre Brasilia *(Cedofeita, Santo Ildefonso, Sé, Miragaia, São Nicolau e Vitória)*
- *v.* ViaCatarina Shopping *(Cedofeita, Santo Ildefonso, Sé, Miragaia, São Nicolau e Vitória)*
- *vi.* Shopping La Vie Porto *(Cedofeita, Santo Ildefonso, Sé, Miragaia, São Nicolau e Vitória)*
- *vii.* Galerias Lumière *(Cedofeita, Santo Ildefonso, Sé, Miragaia, São Nicolau e Vitória)*
- *viii.* Shopping Center Itália *(Cedofeita, Santo Ildefonso, Sé, Miragaia, São Nicolau e Vitória)*
- *ix.* Centro Comercial Capitólio *(Cedofeita, Santo Ildefonso, Sé, Miragaia, São Nicolau e Vitória)*
- *x.* Centro Comercial Invictos *(Cedofeita, Santo Ildefonso, Sé, Miragaia, São Nicolau e Vitória)*
- *xi.* CC Bombarda *(Bonfim)*
- *xii.* Alameda Shop & Spot *(Bonfim)*
- *xiii.* Fontenário Shopping Center *(Bonfim)*
- *xiv.* Centro Comercial Antas *(Bonfim)*
- *xv.* Shopping Cidade do Porto *(Lordelo do Ouro e Massarelos)*
- *xvi.* Centro Comercial Green Center *(Lordelo do Ouro e Massarelos)*
- *xvii.* Centro Comercial da Foz *(Aldoar, Foz do Douro e Nevogilde)*
- *xviii.* Edifício Aviz - Galeria Comercial *(Ramalde)*

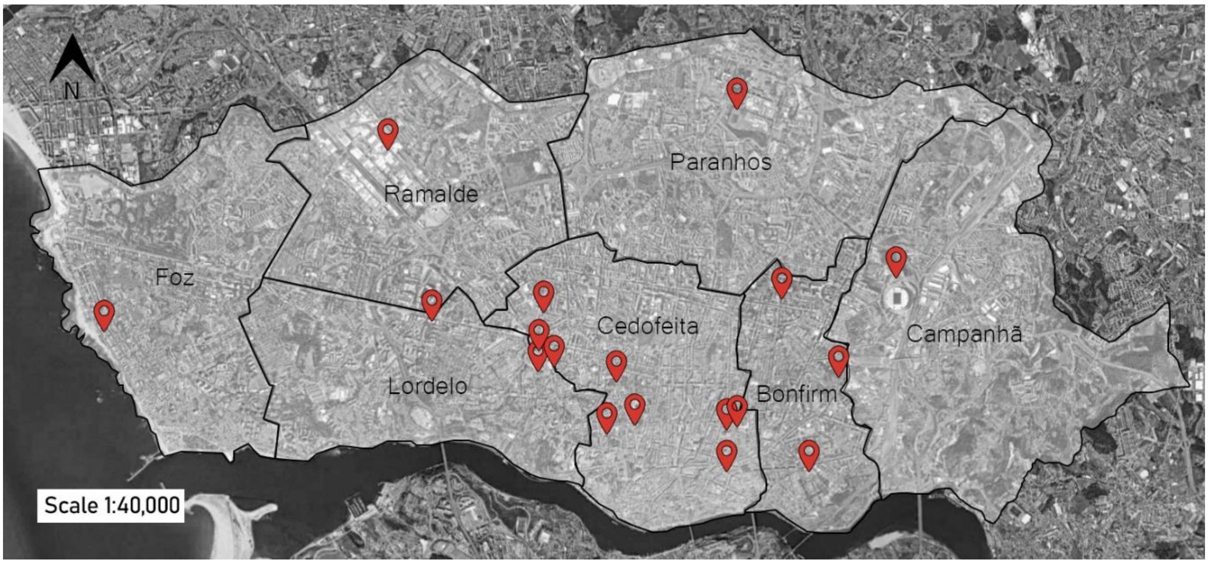

Figure 21- Commercial centres in Porto municipality by Author (March, 2022)

4.4. ÁREA METROPOLITANA DO PORTO (AMP

4.4.1. THE AMP AND ITS TERRITORY

A city whose history has been engraved with that reference, Porto claims to be the hub of the vast region of today's metropolitan area (AMP). Located on the north coast of Portugal, AMP currently covers a geographical area consisting of 17 neighboring municipalities, covering an area of approximately 2,040 km2 and a population of approximately 1.7 million. All of these communities assume that particularity, but AMP undoubtedly converges on complementarity through the diversity that is the carrier and promoter of this cohesion.

4.4.2. AMP AND ITS MUNICIPALITIES

The 17 municipalities that make up the metropolitan area of Porto have unique identity-building traits that give the metropolitan area cultural diversity. This identity / diversity is reflected in the variety of gastronomy, sports, nature and cultural programs offered that provide visitors and compatriots with unique things and experiences.

Figure 22- Área Metropolitana do Porto (AMP)by AMPorto in Caracterização da AMP

Table 3- Municipalities Population and Area data (Population data source: INE Censos 2021 Resultados Provisórios)

S.no	Civil Parish	Population	Area
1	Arouca	21,154 habitants	329,1 km²
2	Espinho	31,045 habitants	21,1 km²
3	Gondomar	164,277 habitants	131,9 km²
4	Maia	134,988 habitants	83 km²
5	Matosinhos	172,586 habitants	62,4 km²
6	Oliveira de Azeméis	66,190 habitants	161,1 km²
7	Paredes	84,371 habitants	156,8 km²

8	Porto	231,828 habitants	41,4 km^2
9	Póvoa de Varzim	64,257 habitants	82,2 km^2
10	Santa Maria da Feira	139,312 habitants	215,9 km^2
11	Santo Tirso	71,530 habitants	136,6 km^2
12	São João da Madeira	22,144 habitants	7,9 km^2
13	Trofa	38,554 habitants	72 km^2
14	Vale de Cambra	21,275 habitants	147,3 km^2
15	Valongo	94,697 habitants	75,1 km^2
16	Vila do Conde	80,831 habitants	149 km^2
17	Vila Nova de Gaia	303,854 habitants	168,5 km^2

4.4.3. Large commercial centres in AMP

Due to the larger area and population of Porto Metropolitan Area, the commercial centres, and complexes are larger (more than 15,000 square metres) in size as compared to the centres in Porto Municipality. The evolution of the commercial started with malls in Porto and the sprawl of centres started developing in the nearby municipalities, currently there are more than 15 large commercial centres (excluding centres of Porto Municipality) in the Porto Metropolitan Area. These centres are concentrated only in few municipalities such as Porto, Maia, Vila Nova de Gaia, Vila do Conde & Gondomar. The commercial centre with their respective municipality list is as follows: -

i. El Corte Inglés Gaia Porto *(Vila Nova de Gaia)*
ii. Norte Shopping *(Matosinhos)*
iii. Centro Commercial Parque Nascente *(Gondomar)*
iv. Arrábida Shopping *(Vila Nova de Gaia)*
v. Gaia Shopping *(Vila Nova de Gaia)*
vi. Mira Maia Shopping *(Maia)*
vii. Maia Shopping *(Maia)*
viii. Mar Shopping *(Matosinhos)*
ix. Vila do Conde -The Style Outlets *(Vila do Conde)*

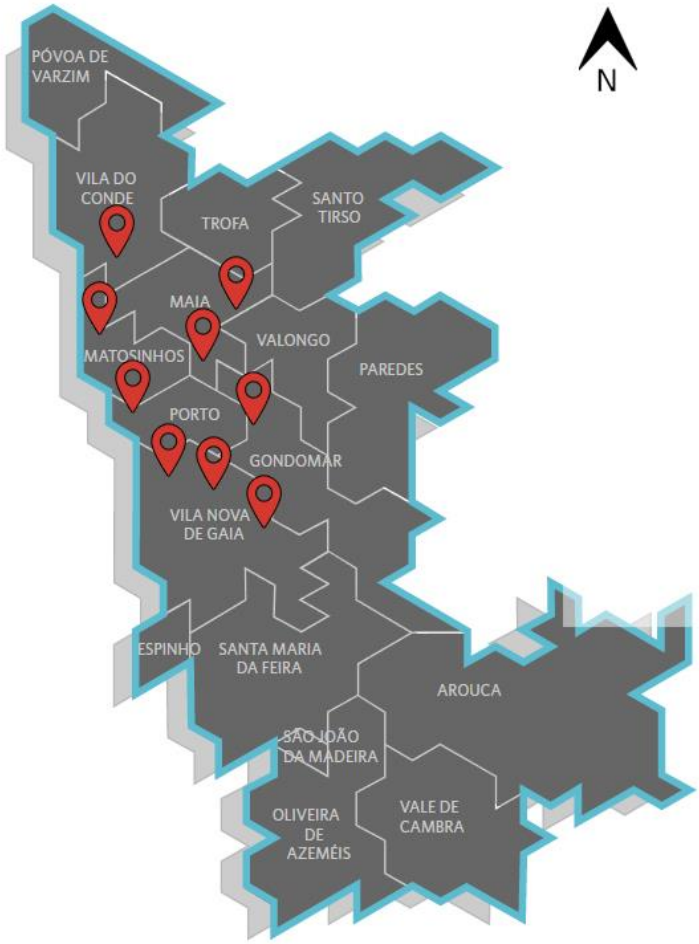

Figure 23- Commercial centres in Metropolitian Area of Porto(excluding centres in Porto Municipality) by Author (March, 2022)

5

DATA COLLECTION & ANALYSIS

The data collection is a part of the case study methodology, further supporting the research work for better analysis of the demalling scenario in Porto. The data was generated through a fieldwork that involved surveys with commercial centres management staff and security administration. This fieldwork consisted of the author's visits to all shopping malls built in Porto since 1976. These visits were made between January 2022 and June 2022. We have prepared a sheet for registering various information in advance. (i) name of the shopping mall; (ii) location according to the civil parish; (iii) year of construction; (iv) total number of shops; (v) number of vacant shops; (vi) percentage of vacancy; (vii) total number of floors; (vii) total commercial area in sq. m. This information is of a quantitative nature and allows us to recognize the size and conditions of the commercial centres in Porto. In first phase, the field work was conducted primarily on the commercial centres in Porto Municipality and in the later phase on the commercial centres in Metropolitian Area of Porto.

5.1 Commercial Spaces in Porto Municipality

There are a total of 18 commercial centres which were considered in this fieldwork. The commercial centres had very different experience due to different existing conditions. The data collection in some of the old and unserviceable commercial centres was challenging due to less or no presence of staff while it was also very quick with the current serviceable commercial centres due to availability of all databases.

S.	MALL	CIVIL PARISH	YEAR OF CONST-RUCTIO N	TOTAL SHOPS	VACANT SHOPS	% OF VACANCY	FLOOR	AREA (sq. m)
1	Galeria Comercial Campus São João	Paranhos	2004	36	2	6%	2	5,000
2	Alameda Shop & Spot	Campanhã	2005	112	16	14%	5	38,000
3	Centro Comercial de Cedofeita	Cedofeita, Santo Ildefonso & more	1978	102	60	59%	3	3,000
4	Shopping Centre Brasilia	Cedofeita, Santo Ildefonso & more	1976	243	85	35%	4	21,500
5	ViaCatarin a Shopping	Cedofeita, Santo Ildefonso & more	1996	81	7	9%	4	11,600
6	Shopping La Vie Porto	Cedofeita, Santo Ildefonso & more	2007	75	26	35%	4	19,500
7	Galerias Lumière	Cedofeita, Santo Ildefonso & more	1978	18	6	33%	2	1,300
8	Shopping Center Itália	Cedofeita, Santo Ildefonso & more	1980	75	40	54%	3	3,000
9	Centro Comercial Capitólio	Cedofeita, Santo Ildefonso & more	1987	62	55	83%	4	3,400
10	Centro Comercial Invictos	Cedofeita, Santo Ildefonso & more	1985	32	10	32%	2	2,000
11	CC Bombarda	Bonfim	2011	22	0	0%	1	1,800

12	Centro Comercial STOP	Bonfim	1982	169	160	94%	6	6,000
13	Fontenário Shopping Center	Bonfim	1990	58	45	78%	2	2,000
14	Centro Comercial Antas	Bonfim	1982	55	30	55%	2	1,500
15	Shopping Cidade do Porto	Lordelo do Ouro e Massarelos	1994	90	10	11%	4	15,000
16	Centro Comercial Green Center	Lordelo do Ouro e Massarelos	1983	19	6	32%	2	1,000
17	Centro Comercial da Foz	Aldoar, Foz do Douro e Nevogilde	1990	20	8	40%	2	1,250
18	Edifício Aviz - Galeria Comercial	Ramalde	1987	27	11	41%	2	1,250

Table 4- Data Sheet for Commercial Centres in Porto Municipality

Ref- Annex 1 – Commercial centres data (Total no. of shops, Vacant Shops, Vacancy Percentage, Total Area, Data collection sources: 1. Self-surveyed for no. of vacant shops, 2. Data provided by management services, 3. Official website)

Table summary-

- Total commercial area- *137,600 sq. m*
- Largest commercial area- *38,000 sq. m (Alameda Shop & Spot)*
- Smallest commercial area- *1,000 sq. m (Centro Comercial Green Center)*
- Maximum number of floors- *6 (Centro Comercial STOP)*
- Maximum vacancy percentage- *94% (Centro Comercial STOP)*
- Minimum vacancy percentage- *0% (CC Bombarda)*
- Oldest developed commercial space- *Shopping Centre Brasilia in 1976*
- Latest commercial space developed- *CC Bombarda in 2011*
- Parish*(Freguesia*) with most number of commercial spaces- *Cedofeita, Santo Ildefonso, Sé, Miragaia, São Nicolau e Vitória*
- Parish*(Freguesia*) with least or no commercial spaces- *Ramalde, Campanhã, Foz*

5.2 Commercial Spaces in Área Metropolitana do Porto (AMP)

There are a total of 9 commercial centres in Metropolitian Area of Porto (excluding centres in Porto Municipality) which were considered in this fieldwork. The commercial centres had very different experience as these commercial centres are much larger in area as compared to centres in Porto municipality. Most of these malls are in service and are the most popular malls in Porto and the data collection in some commercial centres was challenging due to huge number of visitors during the peak hours and weekends but with the management/staff support it was very quick due to availability of all databases.

S.	MALL	PARISH	YEAR OF CONSTRUCTION	TOTAL SHOPS	VACANT SHOPS	% OF VACANCY	FLOORS	AREA (sq. m)
1	Norte Shopping	Matosinhos	1998	263	15	6%	3	75,150
2	Mar Shopping	Matosinhos	2008	201	11	6%	2	102,000
3	Arrábida Shopping	Vila Nova de Gaia	1996	169	17	10%	3	56,600
4	Gaia Shopping	Vila Nova de Gaia	1995	149	7	5%	2	55,660
5	El Corte Inglés Gaia Porto	Vila Nova de Gaia	2004	-	-	-	8	116,000
6	Centro Comercial Parque Nascente	Gondomar	2003	135	7	5%	3	63,500
7	Mira Maia Shopping	Maia	2009	76	45	60%	2	19,000
8	Maia Shopping	Maia	1997	92	5	6%	2	29,000
9	Vila do Conde- The Style Outlets	Vila do Conde	2004	126	8	6%	1	27,650

Table 5- Data Sheet for Commercial centres in Metropolitian Area of Porto

Ref- Annex 1 – Commercial centres data (Total no. of shops, Vacant Shops, Vacancy Percentage, Total Area, Data collection sources: 1. Self-surveyed for no. of vacant shops, 2. Data provided by management services, 3. Official website)

Table summary-

- Total commercial area- *544,560 sq. m*
- Largest commercial area- *116,000 sq. m (El Corte Inglés Gaia Porto)*
- Smallest commercial area- *19,000 sq. m (Mira Maia Shopping)*
- Maximum number of floors- *8 (El Corte Inglés Gaia Porto)*
- Maximum vacancy percentage- *60% (Mira Maia Shopping)*
- Minimum vacancy percentage- *5% (Gaia Shopping & Centro Comercial Parque Nascente)*
- Oldest developed commercial space- *Gaia Shopping in 1995*

The data collected through the surveys and inputs from the commercial centres management and the author would support the analysis of the thesis. In the analysis, we developed charts to understand the evolution and development track of the commercial centres in both the AMP and Porto municipality areas.

Also, we developed a categorization for the commercial centres based on the vacancy percentage of individual's case. This will further assist in deriving patterns of decline and identifying the neighbourhoods which lack commercial accessibility. Further we also undermine individual commercial centres highlighting their current scenarios: working conditions, state of decline, interest of tenants.

5.3. Development of commercial spaces/areas in AMP and Porto Municipality

The following charts highlights the evolution scenarios of commercial centres and areas in Porto, development of commercial centres was started in late 20th century and exploded in the next 20 years, but with time it started spreading outwards from the Porto Municipality.

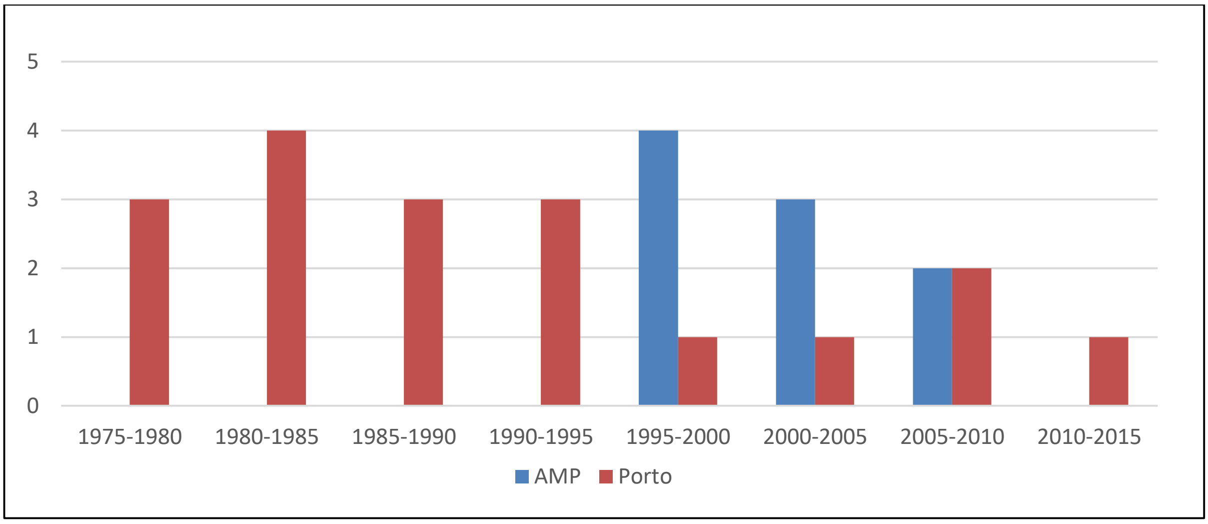

Figure 24- Development of Commercial Spaces in AMP & Porto Municipality by Author (May, 2022)

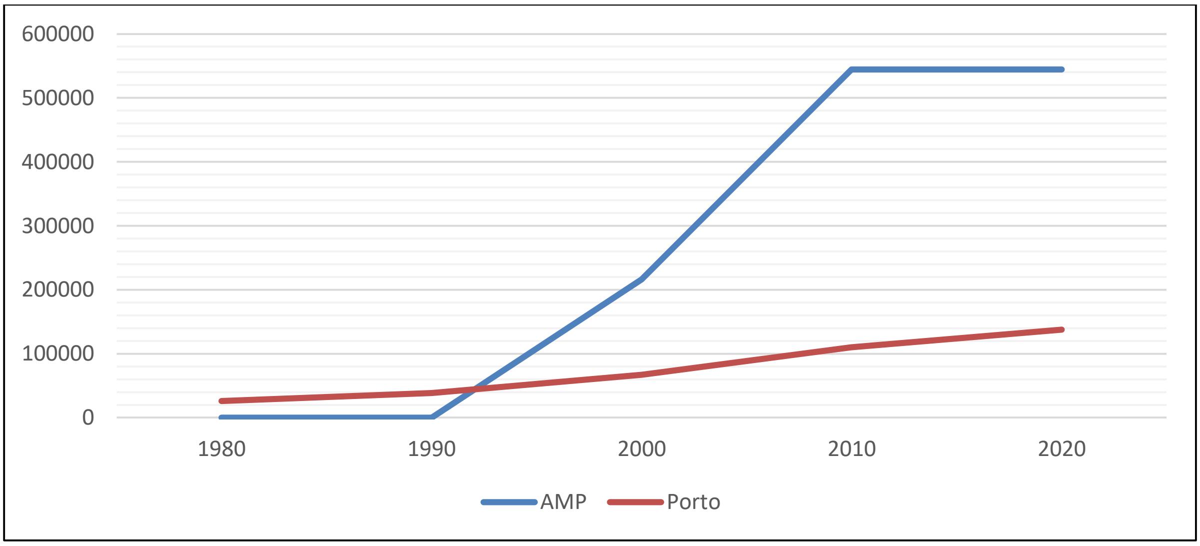

Figure 25- Development of Commercial Area in AMP & Porto Municipality by Author (May, 2022)

From the above charts we could observe the following: -

- The development of commercial spaces and centres was initiated in the early 1980’s in Porto Municipality, several commercial centres were developed adjacently in the following years. The number of commercial centres grew rapidly in the period of 15 years from 3 in 1980 to 13 by 1995. During these time areas of *Cedofeita, Santo Ildefonso, Sé, Miragaia, São Nicolau & Vitória* parish served as the hub of commercial spaces.
- After year 1995, the commercial development took different change in terms of planning and now we started seeing commercial projects development in the AMP regions. An outward movement of development was noticed from the Porto Municipality. This was the time when the Porto city started getting real estate developers interest in commercial spaces, due to this large scale commercial centres started gaining attention.
- From years 2000-2005, the spatial planning of commercial centres was changed as their growth in AMP was peaking and Porto Municipality developed less number of commercial centres. Resulting in sudden decline in commerce development in Porto Municipality. In the same year there were 6 new commercial centres developed in AMP, while Porto Municipality developed only 2 new commercial spaces. Also, now the total commercial area in AMP was much larger than the commercial centres combined in Porto Municipality.
- Until year 2005, the explosion in infrastructural development continued to decline in both the areas, this was the time E-commerce and internet starting to explode and new techniques were being experimented socially leading to diversion of traffic based on individual’s criteria of selection of mode or choice. This was the time of debate whether Online stores could replace Offline shopping centres/brick mortar commercial spaces.
- Recently in year 2010-2020, the total commercial areas developed in AMP were more than 4 times of commercial area of Porto Municipality. We also observed a continuation in overall decline in commercial spaces development, resulting in 2 new commercial centres each in the areas of AMP and Porto Municipality. Further to this many commercial spaces were shut down due to breakout of the COVID-19 pandemic. Lots of social and economic changes were observed in the individual’s behaviour due to the pandemic. People were confined in the houses with all the social and public gathering spaces including commercial centres were closed due to pandemic, this pandemic also acted as a catalyst in breaking the online retail revenues to newer highs. The e-commerce was the only commerce accessible and safer for public use, resulting in less demand of newer development for commercial spaces.

5.4. Serialisation of Commercial Centres on the Basis of Vacancy Percentage

We have categorized the shopping malls on the basis of their working condition, vacant shops and vacancy percentage data as follows-

5.4.1. Type 1 (Vacancy Percentage- up to 10%)

Commercial spaces under this category, are fully functional and popular among the users. High traffic could be seen on the weekends, holidays and peak hours. Generally, all the malls under this category are the largest commercial centres in Porto and AMP. These have zero vacancy percentage as all the shops are rented and attract large customers/footfall. Some of these malls plan to extend and develop new areas to cope up with the future commercial demand.

5.4.2. Type 2 (Vacancy Percentage- 10-20%)

Commercial spaces under this category, show some percentage of vacancy ranging from 10-20%. They are fully functional with good conditions. These are facing competition from the type 1 commercial centres. Many big brand outlets are moving from these category resulting in a slight decline in the footfall. These spaces are trying to achieve full occupancy by locating gyms, co-working spaces and supermarkets in order to gain higher footfall from users.

5.4.3. Type 3 (Vacancy Percentage- 20-50%)

Commercial spaces under this category, are in an alarming state as their vacancy percentage is reaching new highs every year. These malls are on the verge of being shut down. Some of these malls have collaborated with big anchor stores to gain the interest of the users and attract more rentals for the vacant shops. In some cases, the shop rentals have been dropped by 40-50%.

5.4.4. Type 4 (Vacancy Percentage- 50% and Above)

Commercial spaces under this category, have the highest vacancy percentage, some of these malls have been shut down or planning to shut down in a year or two. These malls have zero footfall, as they are no longer serviceable as commercial spaces. Most of these spaces are already converted to public and private office spaces, or are been used as community spaces. Also, the current rental shops are providing services such as laundry & dry-cleaning shops, barbers, salons or warehouses for online stores.

Porto Municipality

The following table shows the commercial centres in Porto Municipality with categorization on the basis of vacancy percentage in individual's case. The commercial centres vary in terms of receive footfall and vacant shops. Most of the foundation malls have low or zero footfall and some of these centres are not in service any longer, while others are still struggling to fuel their existence. Very few malls are performing well in the municipality due to individual's unique selling and target audience.

Table 6- Vacancy Percentage Serialization of Commercial Centres in Porto Municipality

NO.	COMMERCIAL SPACE	% VACANCY
TYPE 1		
1	Galeria Comercial Campus São João	6%
2	ViaCatarina Shopping	9%
3	CC Bombarda	0%
TYPE 2		
1	Alameda Shop & Spot	14%
2	Shopping Cidade do Porto	11%
TYPE 3		
1	Shopping Centre Brasilia	35%
2	Shopping La Vie Porto	35%
3	Galerias Lumière	33%
4	Centro Comercial Invictos	32%
5	Centro Comercial Green Center	32%
6	Centro Comercial da Foz	40%
7	Edifício Aviz - Galeria Comercial	41%
TYPE 4		
1	Centro Comercial STOP	94%

2	Centro Comercial de Cedofeita	59%
3	Shopping Center Itália	54%
4	Centro Comercial Capitólio	83%
5	Fontenário Shopping Center	78%
6	Centro Comercial Antas	55%

Ref- Annex 1 – Commercial centres data.

The following figure locates the commercial centres and their respective typologies *(Type1-4)* in different colours. We can observe that due to large number of commercial centres available in parishes *(Cedofeita, Lordelo & Bonfim),* it has caused internal competitions between the centres resulting very few of the centres are performing well *(Type 1)* while the others are on the extent of being shut down *(Type 3 & Type 4)*. There is example of the successful commercial centres that are supported by their surroundings and neighbourhood such as Alameda Shop & Spot in *Campanhã* and *Galeria Comercial Campus São João* in Paranhos parish. Most of the centres belonging to Type 4 are the foundational commercial centres that were inaugurated before year 2000 and are failing to compete with new generation of commercial complexes due to limitation of expansion and services. Some commercial centres located in the heart of the city centres are in very good condition of service such as ViaCatarina Shopping in *Cedofeita* which is located on the prime commercial street of Porto and is main attraction for tourists, and CC Bombarda located on the border of two parishes *(Cedofeita & Bonfim)* attracting the visitors from both neighbourhoods.

Figure 26- Vacancy Map- Commercial Centres in Porto Municipality by Author (May, 2022)

6.2.1. Type 1 (Vacancy Percentage- up to 10%)

1. Galeria Comercial Campus São João

The commercial space is located in the heart of Paranhos parish, and is the only commercial space in the whole parish. Also the location of the galleria is an important factor of low vacancy percentage as it is surrounded by public and private universities. The main attraction is the number of food outlets at the second floor, with high traffic during the afternoons (both professionals and students). This space host all the facilities and services required by the neighbourhood and mainly serviceable for professionals including supermarkets, recharge shops, mobile shops and stationary shops. Also, the commercial space is developed with a transport system which connects it to the metro station Polo University. Thus this is an example of how successful a commercial space could be if it provides services and products that are required by the neighbourhood or surroundings.

Figure 27- Galeria Comercial Campus São João, Source: CAMPUS S. JOÃO - GALERIA COMERCIAL

2. ViaCatarina Shopping

The commercial centre is one of the major attractions for tourist as it is located on the main commercial street of Porto. Both public and private transport accessibility of the shopping complex also makes it a desirable shopping complex by the locals/users. A number of schools and colleges are located in the neighbourhood makes the complex much attracted by the youngsters with a number of restaurants and cafes located in the top floor of the centre. The centre also attracts many because of the latest design and appearance of the shopping centre.

Figure 28- ViaCatarina Shopping, Source: ViaCatarina.pt

3. CC Bombarda

The commercial centre is a small centre hosting 22 shops in total. The major attraction is the presence of various artisans, jewellery designer, fashion designers and boutique stores in the centre. Also, the centre attracts a lot of locals due to special cafes and restaurants located in the centre. It receives huge footfall on the weekend as many locals contribute and sell home-made or locally grown fruits and vegetables inside the centre attracting others for supporting and buying local products.

Figure 29- CC Bombarda by Author (March,2022)

6.2.2. TYPE 2 (VACANCY PERCENTAGE- 10-20%)

1. Alameda Shop & Spot

This is the only commercial centre located in the Campanhã parish, the most of the attraction is from the residents of the neighbouring areas. It is also famous due to its presence next to Estádio do Dragão, of Futebol Clube do Porto, which is an important venue of Porto city. Also it is one of the latest commercial centres of Porto with newer designs, features and cinema halls. It also hosts a huge supermarket and large number of restaurants and cafes which attracts much of the footfall. Due to the large size and number of shops it attracts huge amount of young visitors are from the nearby parishes such Paranhos, Ramalde and Bonfim.

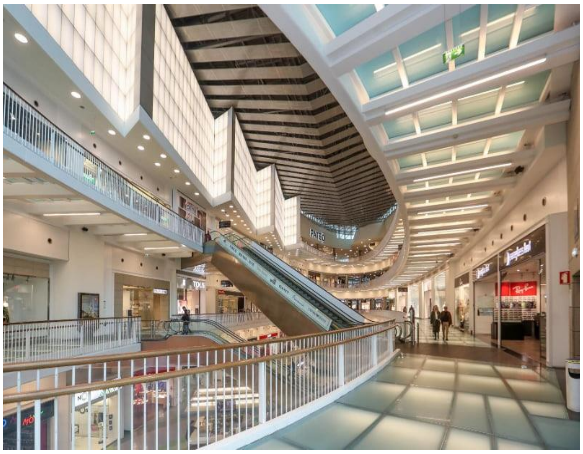

Figure 30- Alameda Shop & Spot, Source: AlamedaShopping.pt

2. Shopping Cidade do Porto

Shopping Cidade do Porto, also known as Shopping do Bom Sucesso, is a commercial area located in the Boavista area, in Lordelo do Ouro e Massarelos parish. The neighbourhood Boavista, is one of the areas of the city with the highest concentration of commerce and services. It is located opposite the Bom Sucesso Market and the Peninsula Commercial Gallery which hosts a large number of corporate offices. Also, a large number of visitors are from few minutes' walk away from the Faculties of Science, Architecture and Humanities of the University of Porto. It has recently collaborated with Decathlon store, which alone attracts huge footfall and has only 2 stores in Porto municipality.

Figure 31- Shopping Cidade do Porto, Source: Shoppingcidadedoporto.com

6.2.3. TYPE 3 (VACANCY PERCENTAGE- 20-50%)

1. Shopping Centre Brasilia

This was the first commercial centre in Porto and is located in the Cedofeita, Santo Ildefonso, Sé, Miragaia, São Nicolau e Vitória parish. The vacancy of shops is increasing gradually as the design of the existing centre is not as appealing to the visitors. Also, newer commercial centres have been developed in the nearby areas attracted all the footfall and trending retail outlets, thus increasing the competition. There are also rumours of a renovation program of this commercial centre to keep up the legacy and importance as in the past. The neighbouring areas are crowded with individual retail outlets, cafes and restaurants decreasing the need of this commercial centre.

Figure 32- Shopping Centre Brasilia, Source: Shopping Brasilia - Associação Comerciantes

2. Shopping La Vie Porto

The La vie shopping mall is located in Cedofeita, Santo Ildefonso, Sé, Miragaia, São Nicolau e Vitória parish. The mall fails to attract footfall and faces major competition from Via Catarina shopping malls that is located in the front. While Via Catarina is itself a successful mall which is an older mall in comparison to La vie but still holds its importance due to the design and welcoming gesture due to opening on both sides attracting visitors mainly tourists from Rua Santa Catarina and Rua Fernando Tomas. In the recent years La vie has collaborated with anchor stores such as Radio Popular and Decathlon stores to survive in the competition.

Figure 33- Shopping La Vie Porto, Source: Porto.lavieshopping.pt

3. Centro Comercial Green Center

The green center is a small commercial centre hosting 19 retail outlets in Lordelo do Ouro e Massarelos parish. The visitors have been diverted to newly developed malls in the neighbhourhooring areas such as Cedofeita, Santo Ildefonso, Sé, Miragaia, São Nicolau e Vitória parish. Also the centre could not cater large number of shops and thus have failed to compete with large commercial centres with more services and functions.

Figure 34- Centro Comercial Green Center by Author (March,2022)

6.2.4. Type 4 (Vacancy Percentage- 50% and Above)

1. Centro Comercial STOP

Figure 35- Centro Comercial STOP by Author (March,2022)

The centre was the one of the oldest commercial centres of Porto Located in Bonfim parish. The commercial has been dead since last few years as the vacancy percentage has grown to 94% with only few restaurants in service. Initially a three-storey car park, then a thriving shopping centre, the building has more recently suffered from years of neglect. Its walls are sprayed with graffiti and plastered with stickers, and the windows are blacked out. The centre has been converted into an underground music hub. The lack of renovation and negligence couldn’t assist the commercial centre to survive even in its own neighbourhood. Though located near the city centre the commercial centre wasn’t able to attract any footfall.

2. Centro Comercial de Cedofeita

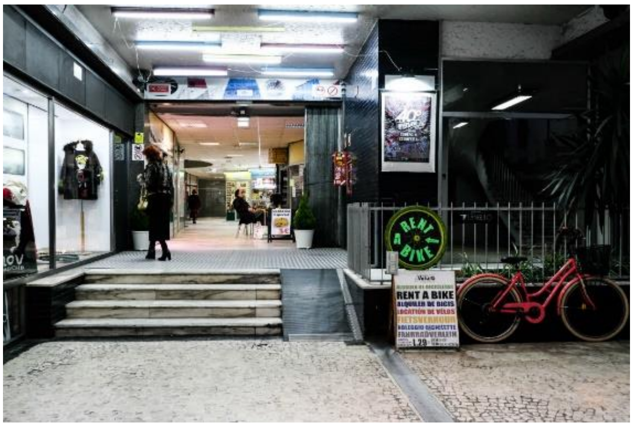

Figure 36- Centro Comercial de Cedofeita by National in Centro Comercial de Cedofeita (January,2019)

The commercial centre is located in Cedofeita, Santo Ildefonso, Sé, Miragaia, São Nicolau e Vitória parish and was the second commercial centre opened in the 1980’s in Porto. However, despite being well received and profusely frequented by the population, from the mid-1990s onwards, the activity of these commercial spaces would go through a dark period, difficult to overcome. Due to the emergence of large shopping centers, the so-called shopping malls, on the periphery with increased facilities and services challenged competition for foundational centres. Also, in Cedofeita, Santo Ildefonso, Sé, Miragaia, São Nicolau e Vitória parish only there are more than 5 commercial centres which resulted in increasing the internal competition between themselves.

3. Fontenário Shopping Center

The centre is located in Bonfim parish and is also one of the oldest centres of Porto. Most of the centres developed in the early 1990's has lost the physical appeal and the designs are outdated. Commercial centres are the symbol of latest fashion and designs, but most of these commercial centres were never developed with time and resulted in losing their visitors to the newly developed competitors. Also the centres were small as compared to areas of newly developed commercial centres so they lack the sense of grandeur and reception factor. With the development of large commercial centres in the AMP, the traffic was gone long before for the foundation commercial centres.

Figure 37- Fontenário Shopping Center by Author (March,2022)

Metropolitian Area of Porto (excluding Porto Municipality)

The following table shows the commercial centres in Metropolitian Area of Porto with serialization on the basis of vacancy percentage in individual's case. Most of these commercial centres have tons of visitors and very few centres have availability of vacant shops. The tenants prefer of owning a shop in these malls due to larger coverage of areas.

Table 7- Vacancy Percentage Serialization of Commercial Centres in Metropolitian Area of Porto

NO.	COMMERCIAL SPACE	% VACANCY
TYPE 1		
1	Norte Shopping	6%
2	Mar Shopping	6%
3	Arrábida Shopping	10%
4	Gaia Shopping	5%
5	Centro Comercial Parque Nascente	5%
6	Maia Shopping	6%
7	Vila do Conde- The Style Outlets	6%
TYPE 4		
1	Mira Maia Shopping	60%

Ref- Annex 1 – Commercial centres data.

Sooner the evolution of the commercial centres reached to the outskirts area of Porto Municipality. The large commercial centres started development in the year 1995 inside the Metropolitian Area of Porto. Gaia Shopping was the first mall in *Vila Nova de Gaia* which was developed outside the Porto Municipality, and after this the development erupted in other municipalities too. The following figures depicts the location of these large commercial centres that are now the greater competition for the foundation commercial centres in Porto Municipality. These large commercial centres share a total of more than 540,000 square meters of commercial area (excluding centres in Porto Municipality), while the commercial area of all commercial centres in Porto municipality is only 137,600 square meters. Areas of Gaia and Maia municipality are greater than compared to Porto Municipality. Two large commercial centres: *Centro Comercial Parque Nascente & Norte Shopping* are located next to the borders of Porto municipality, while these malls are bigger in size as compared to centres in Porto municipality, these commercial centres can accommodate more number of shops thus attracting a larger footfall. Additionally, they also serve to a greater population from Porto Municipality and areas around it.

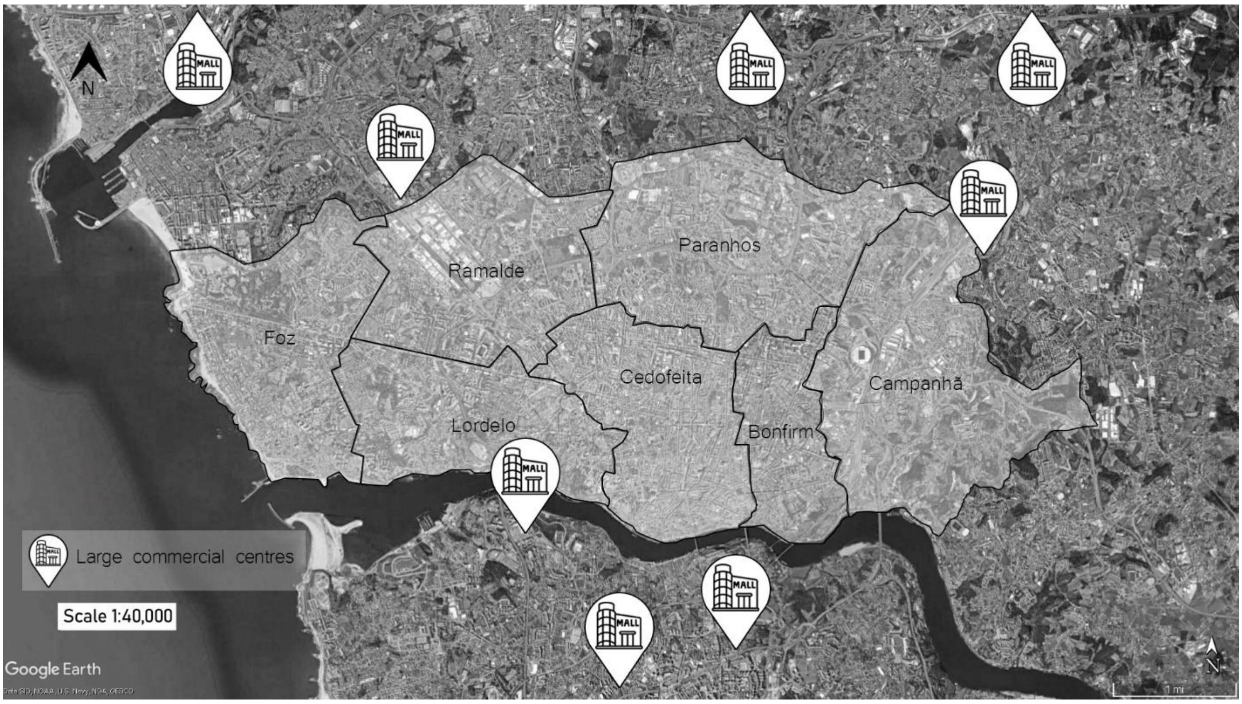

Figure 38- Large Commercial Centres around Porto Municipality by Author (May,2022)

6

DISCUSSION & CONCLUSION

Due to the urban sprawl phenomenon of the 19th century, United States, followed by European countries, has achieved continuous development of commercial centers. Many citizens have moved to urban areas, leading to large-scale urbanization and infrastructure development. However, over the last decade, the wave of mass movement has been less exponential. Moreover, pandemic and financial crisis have revolutionized the trading industry. By embedding technology and increasing the use of Internet, e-commerce has taken the shopping experience to another level. Due to the abundance of commercial space, competition over the opening of new commercial centers has led to a decline of old malls. This led to emergence of dead malls, known typically as the process of demalling. Within Western Europe this process has begun to emerge in major cities causing growing concerns and leading to urban problems. To this end, this study aims to investigate the demalling process. In particular, we investigated demalling in Porto using a case study methodology. The study highlighted evidence and different stages of demalling, discussing possible factors that led to the collapse of certain malls in Porto municipality.

In Porto, restrictive dictatorship was in force until 1974 and the restrictive retail planning policies delayed the wave of urbanization followed by a low purchasing power of the population. This situation resulted in significant lack of interest from large-scale investors to enter the retail sector. In 1976, the first commercial centre Shopping Centre Brasilia was opened in Porto city initiating an explosion in commercial development. By the end of 1985, more than eight shopping centers were operating in Porto. Nevertheless, the construction of commercial centers took place in the last 20 years of the 20th century in integrated urban areas. At the turn of the century, large trade centers emerged on the outskirts of the city, supplying larger areas. This may have led to the rapid end and decline of the founding trade center's golden age.

As observed in Porto's fieldwork, the demalling process looks to be affecting the majority of the city of Porto's historic shopping malls and core business districts. These were the main attractions for the city during 1975-1995, but lately they have been experiencing vacant shops and less interest from the retailers. The conducted fieldwork also indicated unusually high vacancy rates, which highlighted the vulnerability of several of those shopping centers in the municipality of Porto. We have covered a total of 18 case studies of commercial centres in Porto Municipality and 9 commercial centres in Área Metropolitan do Porto (AMP). From the collected data we have observed one-third of the total centres in Porto municipality are having more than 50% vacant shops, while the other one-third of the total centres is having 20-50% of vacant shops. On the other hand, most of the commercial centres of AMP have zero or 5% of vacant shops proving the signs of demalling only in the Porto Municipality.

The literature further discusses the differences of commercial centres growth in both the areas of Porto Municipality and AMP understanding the effect of urbanization on the outskirts areas. The main reason for the decline is that commercial centers have to keep up with modernization, adapt to more recent changes, followed by refurbishment and regular maintenance. The new commercial centres in AMP are successful in attracting visitors as they were developed with newer attractions such as Cinemas, Entertainment places, large number of outlets and modern designs. This competition is one-sided as many of the old commercial centres were smaller in size and didn’t have any scope for expansion as they were developed in dense areas of the Porto Municipality.

The study highlights the gaps in the literature on the evolution and decline of commercial infrastructure, field of surveys, and working conditions of the commercial centres in Porto city. Therefore, given the strong impact of ongoing demolition, demolition research will help city planners take proactive steps to mitigate the impact of this process. Our study focused on a particular case in Porto, but based on the results and evidence, the currently successful commercial centres in AMP may also compete with each other and show signs of dismantling in the future. You can conclude that there is. This study will help us understand Porto's demolition patterns in the future of trade policy redevelopment by transforming these abandoned structures in ways that strengthen community and neighborhood resilience.

In summary, it is very likely that demalling will increase in Europe in the near future, which has significant implications for itself. In addition, it is essential to address the resulting impact.

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Annex 1 – Commercial centres data (Total no. of shops,Vacant Shops, Vacancy Percentage, Total Area, Data collection sources: 1. Self-surveyed for no. of vacant shops, 2. Data provided by management services, 3. Official website)

S. no	Commercial Centre	Total no. of shops	Vacant Shops	Vacancy Percentage	Total Area (sq.m)	Data type
1	Galeria Comercial Campus São João	36	2	6%	5,000	Self-surveyed for no. of vacant shops + official website
2	Alameda Shop & Spot	112	16	14%	38,000	Data provided by management services + official website
3	Centro Comercial de Cedofeita	102	60	59%	3,000	Self-surveyed for no. of vacant shops
4	Shopping Centre Brasilia	243	85	35%	21,500	Data provided by management services + official website
5	ViaCatarina Shopping	81	7	9%	11,600	Data provided by management services + official website
6	Shopping La Vie Porto	75	26	35%	19,500	Self-surveyed for no. of vacant shops + official website
7	Galerias Lumière	18	6	33%	1,300	Self-surveyed for no. of vacant shops
8	Shopping Center Itália	75	40	54%	3,000	Data provided by management services + official website
9	Centro Comercial Capitólio	62	55	83%	3,400	Data provided by management services + official website
10	Centro Comercial Invictos	32	10	32%	2,000	Self-surveyed for no. of vacant shops
11	CC Bombarda	22	0	0%	1,800	Self-surveyed for no. of vacant shops
12	Centro Comercial STOP	169	160	94%	6,000	Data provided by management services
13	Fontenário Shopping Center	58	45	78%	2,000	Self-surveyed for no. of vacant shops
14	Centro Comercial Antas	55	30	55%	1,500	Self-surveyed for no. of vacant shops
15	Shopping Cidade do Porto	90	10	11%	15,000	Self-surveyed for no. of vacant shops + official website
16	Centro Comercial Green Center	19	6	32%	1,000	Self-surveyed for no. of vacant shops
17	Centro Comercial da Foz	20	8	40%	1,250	Self-surveyed for no. of vacant shops + official website
18	Edifício Aviz - Galeria Comercial	27	11	41%	1,250	Self-surveyed for no. of vacant shops + official website
19	Norte Shopping	263	15	6%	75,150	Data provided by management services + official website

20	Mar Shopping	201	11	6%	102,000	Data provided by management services + official website
21	Arrábida Shopping	169	17	10%	56,600	Data provided by management services + official website
22	Gaia Shopping	149	7	5%	55,660	Data provided by management services + official website
23	Centro Comercial Parque Nascente	135	7	5%	63,500	Data provided by management services + official website
24	Mira Maia Shopping	76	45	60%	19,000	Data provided by management services + official website
25	Maia Shopping	92	5	6%	29,000	Data provided by management services + official website
26	Vila do Conde- The Style Outlets	126	8	6%	27,650	Data provided by management services + official website