The Economic Impacts of Digital Nomads in Medellin, Colombia

Bernadette Patricia Farmer

University of New Hampshire, Durham

Follow this and additional works at: https://scholars.unh.edu/honors

Part of the International Economics Commons

Recommended Citation
Farmer, Bernadette Patricia, "The Economic Impacts of Digital Nomads in Medellin, Colombia" (2024). Honors Theses and Capstones. 853.
https://scholars.unh.edu/honors/853

This Senior Honors Thesis is brought to you for free and open access by the Student Scholarship at University of New Hampshire Scholars' Repository. It has been accepted for inclusion in Honors Theses and Capstones by an authorized administrator of University of New Hampshire Scholars' Repository. For more information, please contact Scholarly.Communication@unh.edu.
The Economic Impacts of Digital Nomads in Medellin, Colombia

Bernadette Farmer  
University of New Hampshire Honors Program  
Senior Thesis – Spring 2024  
Advisor: Reagan Baughman, Peter T. Paul School of Business and Economics
I. Introduction

As a result of increasing internet accessibility and the rise in popularity and possibility of remote work following the COVID-19 pandemic, workers from advanced economies have applied the work-from-home routine while visiting different countries. These destination cities have lower living costs and remote workers can experience increased purchasing power and new cultures. To fully take advantage of their professional autonomy, these workers, known as digital nomads, stay in each international location for one to three months before traveling elsewhere – conveying their propensity for nomadism (Bahri and Widhyharto 2021, 79). In this paper, I will study the economic impacts digital nomads (hereafter referred to as DNs) have on their host cities in three ways: the rising of prices in the housing and consumption markets, the encouragement of entrepreneurship, and the intercultural exchange of information. DN hotspots are located worldwide in cities such as Buenos Aires, Argentina, Bangkok, Thailand, and Mexico City, Mexico (Witt et al. 2023). The focus city of this paper is Medellín, Colombia, as it is one of the most popular nomad destinations and an emerging economy, providing an intriguing backdrop for the evident economic effects.

A country’s economic strength is vital for developing beneficial social welfare programs, creating new international trading opportunities, and promoting capital flow from other countries. In Colombia’s case, the rapid inundation and subsequent outflow of individuals with high buying capacity affects its economic development by creating inflationary trends in the local markets for goods and services. Furthermore, the displacement of Colombian natives, as they are priced out of their neighborhoods, will negatively and profoundly impact the distribution of housing and wealth in the years to come. Due to the presence of DNs on social media advertising their appealing lifestyle, MBO Partners, an established staffing agency, predicted that
as of 2023, 70 million in the US labor force were contemplating working as a DN, with 24 million as a definite yes and 46 million as unsure (MBO Partners, n.d.). Although this is a 3% decrease from 2022, this objectively large figure emphasizes that the presence of digital nomads is transforming into a permanent aspect of the social and economic makeup of the US labor force and global traveling community. This growing trend of DNs is a call to action for other frequent travelers to understand the implications their actions have on local communities. As the world becomes increasingly globalized and connected through digitalization, avenues for sustainable tourism must be created to support these mass movements and protect the economies and infrastructure of popular DN destinations.

To obtain the most recent information on DNs, in June of 2023, the companies Emergent Research and Rockbridge Associates surveyed 6,575 residents of the U.S. (aged 18 and older), which included 1,178 current digital nomads. As of 2023, 17.3 million Americans, totaling 11% of the workforce, identify as DNs (MBO Partners, n.d.). This is a 2% increase from the 16.9 DNs recorded in 2022. The COVID-19 pandemic increased this type of work further; the survey reports that between 2019 and 2022, there was a 131% increase in people who identify as DNs in the US labor force. Based on the current demographic literature on DNs, the majority are millennials, male, and from Europe or the United States. Figure 1 provides a breakdown of the current DN demographics in the US working population. Countries with significant numbers of US DNs are Mexico, Portugal, and Spain (Saravia 2024). It is important to note that a DN can be any race, nationality, ethnicity, or gender. Witt et al. (2023) report that the tech industry employs most DNs while others are freelancers and entrepreneurs in the gig economy. A typical DN may work as a software engineer, data security analyst, or web developer (Toro-Fernández 2023). MBO Partners’ report, as seen in Figure 1, clarifies that 10.7 million are traditional employees
with employers (a 4% decline from 2022) and 6.6 million are independent workers or freelancers (a 14% increase from 2022).

A DN is not considered a typical tourist, as their behavior is named lifestyle traveling, “that combines working and leisure abroad” and encourages a healthy work-life balance (Chova and Ehrlich-Treuenstätt 2023, 3). Hannonen (2020) describes their working identity and mission as being able to be “marooned on a desert island, still running your business or doing your job.” DNs experience a positive change in culture and social conditions, as their normal nine-to-five in a bustling US city is seen as inferior to a calmer and more cost-effective lifestyle in a destination, foreign city. DNs movements encompass slow travel, which values spending more time in one place and experiencing the new destination on a deeper level (Chova and Ehrlich-Treuenstätt 2023, 3). Bloomberg coins this current way to prioritize travel as the “new American dream” – where individuals realize increased financial freedom when completing remote work in a different country where their pay currency is much stronger than the local currency. According to Hypnic Data, it is about 70% cheaper and less expensive to live in Medellín than in New York City (Hernández and Apostolicas 2023). Further demonstrating the relevance of the economic gap, one DN was recorded to have said, “Medellín is much better than Los Angeles because I gave myself like a quadruple raise by moving here” (Gurvičius 2021).

Colombia consistently ranks as one of the most well-known and visited digital nomad hubs worldwide due to its favorable climate and community (Santiago 2024). Located in the middle of the Andes Mountain Range in the Aburrá Valley of Antioquia and known as “La Ciudad de La Eterna Primavera” or “the City of the Eternal Spring, Medellin offers ideal temperatures and scenic public spaces for travelers (Gurvičius 2021). The orange marker in Figure 2.1 shows Medellin’s location within the larger blue-shaded region of Antioquia within
Medellín has 249 neighborhoods that encompass a blend of rural and urban areas (Gurvičius 2021). The city’s current attractiveness to foreigners contrasts with its historical association with violence and narcotrafficking. Pablo Escobar’s drug cartel used Medellín as his center of operations in the nineteen eighties and nineties (Jaramillo 2023). The city’s appearance in miscellaneous elements of the entertainment industry, including Netflix shows and hit songs, has brought positive attention and more visitors to the city (Rueda 2024). The platform Nomad List records all relevant information about the city that may be important for a frequent traveler and DN, such as the current cost of living, community pros and cons, and migration trends to and from the city. In April 2024, 2,000 DNS arrived in Medellin, mostly from Canada, New Zealand, Ireland, the United States, and the Netherlands (Saravia 2024). Figure 2 illustrates the distribution of DNs traveling from these origin countries to Medellin. The larger amounts of shading, particularly in the US and Canada, signify that the majority travel from Western nations. Under Nomad Lists’ “Digital Nomad Guide” for Medellin, a traveler’s average trip length is 28 days (Saravia 2024). This figure is consistent with the general norm for a DN to visit between twelve and thirteen countries in one year and stay in one country for about a month (Witt et al. 2023).

Concerning their lifestyle, Witt et al. (2023) state that workers participate in social activities and congregate in co-working spaces often run by Colombian business owners. Hannonen (2020) states that DNs “stay in big metropolitan centers with sufficient infrastructure… and stable WiFi to support their working and personal routines.” Studies cite DN's desire to experience a sense of community within their individualistic, nomadic lifestyle, leading to them living and working in communal spaces (Gurvičius 2021). An article from a Colombian newspaper, Ámbito Jurídico, reports that individuals from twenty-three countries,
including the US, are now able to obtain the Visa V Digital Nomad which allows them to stay in certain countries, including Colombia, and conduct their remote business for up to two years. Individuals living in Colombia under this visa can only work for foreign companies, as independent contractors or regular employees, or “to start a digital content or information technology venture of interest to the country” (Toro-Fernández 2023). These visas expand DN’s possibilities regarding where they can establish their semi-permanent residencies, providing them with increased international mobility (Bahri and Widhyharto 2021, 79). As of June 9, 2023, 618 visas of this category have been granted to eligible workers (Toro-Fernández 2023).

Based on the 2018 census, the US Department of Commerce’s International Trade Administration reports Medellin’s population as 2.5 million and GDP as 43.078 million US dollars (US Department of Commerce, n.d.). It is the second largest city in Colombia, after the nation’s capital Bogota. The city’s transformation from a “murder city” in the eighties to an inviting tourist destination can be attributed to many things, one of which being Colombia’s Science, Technology, and Innovation plan to transition from a commodity-based economy to a knowledge-based economy. The purpose of this plan is to increase funding for research and development by strengthening the relations between Colombian research universities and businesses seeking to innovate (World Economic Forum 2016). The successful implementation of this plan is epitomized through the presence of Ruta N, established by the Medellin government in 2011. This technology complex hosts office space for over three hundred tech companies and has generated eleven thousand jobs in the areas of “information and communication technologies, energy, and health” development (Gurvičius 2021). Other economic development plans include the National Development Plan (“Todos Por Un Nuevo País”) and the Productive Development Policy, or the “Modern Industrial Policy” (World
Economic Forum 2016). From 2002 to 2012, the middle class of Colombia grew at accelerating rates, and poverty measures decreased by 20% (World Economic Forum 2016). The city’s strides in progress are visible through its accolades; in 2013 it was named the “Innovative City Of The Year” by the Wall Street Journal and in 2017 UNESCO awarded it the title, “Medellin, A Learning City” (US Department of Commerce, n.d.). Medellin has invested in its public infrastructure to improve its “libraries, museums, parks, and cable cars” and remake its reputation into one of modernity and positive progress (Rueda 2024).

Leaders at the International Monetary Fund, Duttagupta and Pazarbasioglu, place Colombia on the list of forty “emerging market and middle-income economies” based on its systemic presence, market access, and income level. In general, emerging economies are inferior to advanced economies but replicate their behaviors as they expand their “global trade and financial market integration” at a fast pace. In Colombia’s case, they are transitioning to an advanced economy due to the high rates of economic growth, but still retain a degree of market volatility due to political instability (Duttagupta and Pazarbasioglu 2021). The Human Development Index measures life expectancies, qualities of living, and overall accessibility to education. As a result, the United Nations measurement of Colombia’s human development index of .75 puts it on par with other emerging economies such as Mexico and Brazil (United Nations Development Programme 2022). To further highlight Colombia’s rebuilding, the United Nations reports that “between 1990 and 2021, Colombia's HDI value changed from 0.610 to 0.752, a change of 23.3[\%]” (United Nations Development Programme 2022). According to the Heritage Foundation regarding Colombia’s level of economic freedom, Colombia is weakest in the rule of law and government size and stronger in regulatory efficiency and open markets.
They also report the most recent inflation rate at 10% and state that although political corruption remains an issue, business procedures have become more efficient.

Colombia’s status as an emerging or middle economy makes it an ideal host city for a DN as it replicates some of the strong economic conditions in their origin countries but provides reduced living expenses. Presently, Medellin focuses on rebuilding its economy and public programs from the violence it experienced in previous decades and this is shown through the increasing HDI value. Due to these conditions, DNs are finding opportunities to embrace a new, cheaper lifestyle in Colombia that still allows them to feel safe and encourages their well-being. Nevertheless, the DNs are entering the city and affecting its levels of economic progress at times of transition and vulnerability. DNs are actively changing Medellin’s demographic and economic makeup, which could lead to a harmful disruption to Colombia’s progress. Throughout this paper, I will demonstrate the various elements of the disruption caused by the DNs and how the Colombian community reacts to them.

I. Literature Review

The literature I summarize includes two fieldwork studies and two data websites regarding rental property in Medellín. Background research was also conducted by reading newspaper articles and DN blogs revealing testimonies and growing sentiments from locals and DNs. The literature on Colombia’s economy is derived from formal economic resources and government organization websites. A study conducted by researcher Gurvičius (2021) at Utrecht University explores the levels of connectedness digital nomads perceive regarding their host city environment in Medellín, Colombia, and what types of characteristics affect their nomadic movement. He conducted a fieldwork study in 2016 and interviewed numerous digital nomads in the area, observed how they interact at digital nomad social events and spoke to native
Colombians. The majority of the respondents in the study were highly educated, male, and around thirty years of age. The observations took place at a variety of co-working spaces including Epicentro, Ondas Cafe, Espacio, and Ruta N (a Medellin city entrepreneurship center founded in 2011). DN study respondents find Medellin to be an attractive destination for nomads because of “the climate, proximity to nature, cheap domestic flights, wide-ranging international ones, the cost and quality of living, the local community, and availability of DN events/infrastructure in general” (Gurvičius 2021). The study shows that digital nomads are well connected with their environment, as they spend their time volunteering and engaging with the community after working hours. Examples and interviews from this study will be used in this paper to further explain the exchange of knowledge occurring between the DNs and the host community on cultural and informational levels.

A similar ethnographic case study conducted by researchers at the Jönköping International Business School corroborates these findings and provides examples of locals, DNs, and the Colombia business community connecting through collaboration, support, knowledge and skill sharing, and cultural integration (Chova and Ehrlich-Treuenstätt 2023, 30). Researchers traveled to both Colombia and Malaysia to gather primary source information by observing the cities themselves. Additionally, they interviewed various business owners, DNs, and members of the local communities to understand how they regularly connect. Chova and Ehrlich-Treuenstätt (2023) write about the Paisa culture present in the Antioquia region (where Medellin is located) which is “recognized for fostering collaboration among individuals from lower social classes and among those engaged in high social or complex activities” (Chova and Ehrlich-Treuenstätt 2023, 34). This cultural aspect will help explain the enthusiastic entrepreneurial response of the Medellin workforce to the DN’s demand for specific goods and services. Overall, the study finds
that Colombia has “high levels of [both] gentrification and interaction” and to reduce the degree of gentrification in the destination city, DNs and locals should strengthen and augment their interactions and collaborations with each other.

To explore the current state of the housing market in Medellin, I analyzed journal articles on this topic and concluded that short-term rentals are a common source of housing for DNs. These can be found on online platforms such as Airbnb and can be rented for less than thirty days, which is consistent with the current average stay of a DN in Medellin of 28 days (Carvalho 2023). Former long-term properties are being converted into short-term rentals, which can bring larger and more frequent profits to landlords (Rueda 2024). Wachsmuth and Weisler (2018) explain the role Airbnb has in perpetuating gentrification and the rent gap through short-term rentals in New York City. The authors obtained data from AirDNA to study Airbnb listings in NYC from September 2014 to August 2017. Among other things, they determined that removing long-term rentals from the market raises the price for the few remaining properties, as there is a lower supply that is in high demand (Wachsmuth and Weisler 2018, 5). Although this study concerns gentrification in NYC, the theory can be applied to Medellin. That being said, the study conceptually corroborates with Witt et al. (2023) by explaining that Airbnb avoids many logistical issues that may come with renting from a local housing market and provides convenience for DNs (Wachsmuth and Weisler 2018, 2-28). Further information about the housing market in Medellin was obtained from the AirDNA website, which collects data from Airbnb and Vrbo/Home Away.

Between January and April of 2023, Properati Blog gathered data from over 300,000 rental announcements in Medellin to construct data on rental price trends. Their research shows how the Laureles and El Poblado neighborhoods experienced rental price increases of 81% and
33%, respectively (Sarmiento 2023). These are two of the most popular barrios or neighborhoods for DNs to choose from in Medellin (Witt et al. 2023). The utilization of the platform Airbnb and the presence of co-working spaces introduce the sharing economy concept. Li (2023) describes the evolution of the sharing and gig economies and addresses the problems its development could pose for regulatory bodies, such as the government. As a result of the growing prevalence of DNs and these economic structures, residents have placed anti-digital nomad posters in barrios, including El Poblado, that express growing public sentiment against the rising prices (Ascencio 2023).

Hannonen (2020) establishes the difference between different types of nomads and remote workers to specify the definition of a DN. This article specifically addresses how numerous nations throughout the world are becoming increasingly “digital nomad friendly” as their visa protocols are allowing DNs to easily establish themselves in foreign spaces (Hannonen 2020). Due to many DNs’ advanced capabilities to navigate technology, their tendency to publish and post about their newfound ways of life on the Internet brings attention and awareness to potential future DNs about the advantages of this lifestyle. A study titled, “Social Network Analysis (SNA) on #Kristengray Hashtag: Understanding Gentrification Side Effects Behind the Digital Nomad Phenomenon” makes use of Hannonen’s approach to defining DNs and elucidates the correlation between their behavior and gentrification. Authors Bahri and Widhyharto recognize a DNs capability to cause these changes, particularly as they move into traditional lower-income areas with higher incomes, and increase prices high enough that the lower class can no longer afford to reside in the area. Therefore, gentrification is defined as a “social upheaval” that occurs when changes in the culture and socioeconomic status of an area can force former residents to move away (Bahri and Widhyharto 2021, 79).
Next, to gain a greater understanding of how and what kind of knowledge can be exchanged within groups of people, I consulted Nonaka (2007), “The Knowledge-Creating Company.” By referencing the history of success of various Japanese businesses’ experiences, Nonaka (2007) recognizes their point of difference as their capacity to encourage the generation of knowledge. It spells out the difference between explicit and tacit knowledge and identifies the four basic patterns for creating knowledge. These are socialization, articulation, combination, and internalization. This information will be used to characterize the type of exchange of knowledge occurring between DNs and the host community and frame the examples within a larger context that is producing a productive entity larger than the nomads themselves.

The comprehensive literature review demonstrates the strong relationship between the presence of digital nomads in Medellín, Colombia, and the noticeable changes in the city’s social dynamics and economic conditions. The two ethnographic case studies provide supporting quotes from DNs and Colombian residents that assist the analysis of a DN’s multifaceted impact. Wachsmuth and Weisler (2018) and Bahri and Widhyharto (2021) provide similar definitions of gentrification which was useful in deducing the anthropological aspects of this subject. In addition, Hannonen (2020) and Witt et al. (2023) supply informative descriptions of DNs’ tendencies regarding the types of places visited, activities engaged in, and travel objectives. This paper will add to the literature above by developing a conceptual model to explain the trends in the housing and goods and services market data and describe the current conditions in Medellín, Colombia. Economic theory has the power to explain the globalization happening in Medellín and guide city officials' urban policy planning in managing the influx of higher-income short-term residents to the city.

II. Conceptual Model
In this section, I build a conceptual model of how DNs influence the Colombian housing and consumption markets, entrepreneurship activities, and diffusion of technology. I use an economic framework to examine the costs and benefits of DNs’ labor migration in a detailed, structured way. Many of these concepts are connected to gentrification and geographic arbitrage, which play a role in distinguishing a DN from any other tourist. By comparing both the advantages and disadvantages DNs pose on host destinations, cities in similar positions to Medellin can learn how to balance the economic consequences and intercultural collaboration taking place. Figure 3 outlines the conceptual model that will be referenced to understand the multi-faceted effects of a DN arriving at Medellin.

It is critical to understand how socioeconomic gentrification is enabled by the increased purchasing power DNs experience when arriving in Medellin. When DNs arrive and begin working in Medellin, they are paid in their home currency salaries, not Colombian pesos. In terms of this analysis, the home currency of a DN (the US dollar, Australian dollar, or Euro) consistently has a greater purchasing power than the currency used in Colombia, the Colombian Peso. Purchasing power is the value of money in terms of the number of goods and services it can buy. As of April 2024, one US dollar is worth about 3,770 Colombian pesos. Additionally, Colombians have a median salary of $1,044 a month, while the US median salary is $6,966 a month (Remoti Talent Infrastructure 2023). Exchange rates are contingent upon the supply and demand levels for a particular currency and the overall strength of a country’s economy. Not all currencies have equal value, and exchange rates express the relationships between different currencies – how much one currency is worth in terms of another. Depending on market conditions, currencies can appreciate, increase in value, or depreciate and decrease in value. The dramatic difference allows the dollar, when converted to Colombian pesos, to buy many more
goods in Colombia than it could in the United States. In a DN blog post, authors recorded their interactions with, “two American tech workers who were literally attempting to spend as much money on food as they could… one said, ‘We couldn’t even break 90 bucks’” (Witt et al. 2023). With increased purchasing power and reduced living expenses, DNs engage in geographic arbitrage when they take advantage of their higher salary in a cheaper country and buy more items than an average Colombian citizen could with their salary in Colombian pesos (Gurvičius 2021).

DNs’ increased buying power is exemplified through the housing market for particular neighborhoods in Medellin and denotes a negative economic impact. In Laureles and El Poblado, the demand for housing increases due to the influx of DNs to the community with greater buying capacity. In a supply and demand model, this increase would shift the demand curve on the Medellin housing market out, pushing up the price of housing and rents. Higher rates of bidding for a fixed supply of housing naturally increase property values. A similar event happens in the goods and services market, as DNs can buy more goods with higher salaries. For example, the cost of a latte in Medellin is 6,000 Colombian Pesos, equating to $1.34 (Witt et al. 2023). Compared to the average $6 price of a latte in the US, this difference in pricing allows DNs to purchase more lattes in Colombia. Due to the demand for goods, such as a latte, increasing, the prices of goods are pushed up. When goods’ price levels increase, not due to the Colombian peso getting stronger but instead due to the DN’s amplified purchasing power, this causes inflation. Inflation occurs because goods price levels increase while the home currency of the Colombian peso does not appreciate. As of 2022, the current inflation rate and consumer price in Colombia is 10.2% (The Heritage Foundation, n.d.).
Both rightward shifts in demand cause economic gentrification, which is the crowding out of Colombian communities that can no longer afford the accelerating, costly neighborhood prices. Displacement happens among working-class Colombians who are not earning high enough salaries to compete with the DNs. This occurrence is broadly known as gentrification. Bahri and Widhyharto (2021) state that gentrification occurs “when upper-middle economic groups come and settle in an area which increases rental prices, raw material prices, and service prices so that it will indirectly make the lower-class unable to survive and move from the area.” In a subsequent study, stories of Medellin residents who are affected by gentrification are shared to support this argument.

While aspects of this phenomenon are problematic for the local Medellin community, the influx of DNs in Medellin has, in theory, the power to bring benefits to Colombia’s market for entrepreneurship and labor force. Undoubtedly, a DN's larger budget changes the commercial makeup of the city as businesses adapt to foreigners’ preferences and demands for certain goods. This then enables a cluster of new enterprises and avenues to emerge, driving increased entrepreneurship throughout Medellin’s tourism industry. For example, DNs tend to congregate in public areas to do their online work during the daytime hours. These spaces, equipped with outlets, lattes, and comfortable seating are named co-working spaces (Witt et al. 2023). The growth of consumer preferences for these cafes creates a viable market for Colombian entrepreneurs to invest in this type of business. Additionally, with DNs arriving from diverse parts of the world, another avenue for entrepreneurship is establishing restaurants featuring international cuisines. This is a preliminary form of innovation diffusion. The city is currently in the initial stages of diffusion because there exists a strong push for adopting these new business practices. Further, the commoditization of the new consumers’ (DNs) preferences boosts
development and labor productivity within the city. If more individuals are spending money, then more people will obtain jobs that provide the services.

Although aspects of a DN’s movements promote continuous travel, their tendency to stay in one area for a month or two represents slow travel; the idea of remaining in a foreign country long enough to absorb parts of the culture and interact with the local community. These interactions empower the transfer of both tacit and explicit knowledge between the DNs and the Colombian community, prioritizing skill sharing and collaboration. Explicit knowledge refers to hard skills such as operating technology or learning a new language (Nonaka 2007). Tacit knowledge cannot be learned in a textbook and is not quantifiable. Rather, it is obtained through experiencing situations and deciding the best course of action based on context and intuition (Nonaka 2007). While a DN stays in Medellin, they participate in DN meetups and events, that are open to the entire city, to enhance their global social networks. The meetups provide opportunities to socialize with other people and exchange not only job industry-related advice but diverse perspectives and modes of thinking. The spread of personal knowledge can lead to professional development for both DNs and local Colombians participating in the exchanges. These events are examples of tacit knowledge transfer because it is the people (DNs) who underscore new information and opportunities and aid the development of human capital and skill acquisition. In this scenario, DNs are knowledge workers and serve a valuable purpose as it is difficult to replicate a person and the unique experiences they can teach.

III. Analysis

The purpose of this section is to provide quantitative and qualitative evidence of the theory presented in the previous section. Beginning with the Medellin housing market, it is important to note that in the past, districts such as Laureles and El Poblado have been
accustomed to housing middle to upper-middle-class Colombian residents (Ascencio 2023). These areas are attractive to DNs, as they resemble the type of neighborhood they would typically choose to settle in within their home countries. Laureles has a bustling atmosphere as the center of Pontificia Bolivariana University and is readily accessible to the most popular social and work centers. El Poblado is the hub of the tourism activity within Medellin as “most of the upscale places (restaurants, hotels, condominiums with rooftop pools) are in this area” (Gurvičius 2021). However, as previously discussed, an economic gap exists between the upper-middle class of Colombia and that of a developed country, such as the US. Figure 4 shows the dramatic difference between the average wages of Colombia and the most popular origin countries of DNs choosing to work remotely in Medellin. In US dollars, the average wages in Colombia are $22,248 while the average wages in the US and the Netherlands are $77,463 and $63,225 (OECD 2024). Colombia’s status as an emerging market economy means that its minimum wage “is closer to the median wage, which partly reflects low median wages” in comparison to advanced economies (Duttagupta and Pazarbasioglu 2021). These figures signal a large disparity of wealth between the native Colombians and DNs, which becomes exacerbated once the DNs partake in the same local markets for goods and services as the natives.

The evidence of rising prices comes from Properati Data, which analyzed rent advertisements in Medellin between January and April of 2023. During this time, there was an 81% and 58% increase in rents in the Medellin subsections of Bolivariana, Laureles, and La Castellana, Laureles (Sarmiento 2023). Despite the Colombian minimum wage being 1.3 million COP, these percentage increases reflect the average price of an apartment increasing from 1.8 million COP to 3.8 COP (Sarmiento 2023). Figure 5 depicts the percentage increases per neighborhood in Laureles, Belén, La América, and Villa Hermosa. The climbing rents are not
concentrated in one specific section of the city, which has the potential to affect larger portions of the city’s housing market negatively.

An essential element of the Medellin housing market that contributes to rising prices and gentrification is the augmentation of short-term rentals through online platforms such as Airbnb. Airbnb is a form of the sharing economy that “connects travelers with hosts” and provides a middle ground “between traditional residential rental housing and hotel accommodation” (Wachsmuth and Weisler 2018). The sharing economy is the way people market their unused assets, ranging from spare rooms to vehicle services, to others, and has been made possible by recent advancements in technology (Li 2023). Medellin actively participates in the sharing economy as a Bloomberg article states that in 2023 “the number of listings available on Airbnb and Vrbo in Medellin jumped by 45% to 12,372 in June from 8,532 a year earlier” (Jaramillo 2023). AirDna documents that the city of Medellin currently has a total of 11,596 listings on Airbnb, scored a 98 on the market score assessment, and generates $78.6 million annually in revenue (“Market Overview: Medellín” 2017).

Wachsmuth and Weisler (2018) studied gentrification caused by Airbnb in New York City over three years and discussed the concept of the rent gap. This concept offers a name for the trend of geographically random certain city neighborhoods having a greater potential revenue as short-term properties for landlords. As it happens, property owners in Medellin experience and take advantage of a newly formed rent gap by capturing larger profits in the short-term market compared to “the traditional rental market [where] you have a yearly return of around 5% to 6%” (Rueda 2024). This causes the conversion of rental units from long-term to short-term. The presence of Airbnb is positively correlated with this conversion, as “a study by New York Communities for Change and Real Affordability for All found that Airbnb took approximately
20% of vacancies off the market in certain Manhattan and Brooklyn zip codes, and up to 28% in the East Village neighborhood” (Wachsmuth and Weisler 2018). Back in Medellin, this event is exemplified through the experience of Sandra Suarez. Her story, chronicled in an article published by The World, relates to her landlord’s decision to convert all twenty-four apartments in her building to short-term rentals. Previously, “she was paying $220 a month for a two-bedroom apartment in Laureles on a contract that was eight years old” (Rueda 2024). Although her income is $1,000 per month, “which is four times the national minimum wage” she was then unable to find a suitable apartment for under $600 in Laureles and forced to relocate to a living space located a greater distance away from Medellin’s center (Rueda 2024). While it is not explicitly stated that these apartments will be used for DNs, this story signifies the glaringly growing trend of gentrification within the city.

Transitioning to the benefits of DNs’ movements, it is worth noting that the development in entrepreneurship taking place in Medellin has its roots in the cultural identity of the Antioquia region. Known as Paisa culture, people from this area are characterized by their ambitious spirit and desire to innovatively collaborate amongst differing socioeconomic classes (Chova and Ehrlich-Treuenstätt 2023, 34). Colombian business owner Daniel Garcés Botero capitalized on the DN's demand for coworking spaces and created the Semilla Cafe. In previous years, Botero had attempted to start businesses in the bicycle and marmalade manufacturing industries but had little success. Semilla Cafe opened its doors in 2019 and while Botero was initially apprehensive due to it being “very hard to get investors” his success is cemented as “now they’re [the investors] coming to me” (Witt et al. 2023). Semilla Cafe charges DNs for membership subscriptions or rentals of individual desks, private offices, content generator rooms, and conference rooms. Similarly, La Casa Redonda in Laureles was created by nine Colombian
natives who identify as “creative professionals” (Gurvičius 2021). Their mission was to create a space fostering creativity and collaboration amongst independent workers. In short, the creation of markets catering to DNs’ preferences is fueled by the existing Paisa culture and the motivation of the local community to take advantage of the economic opportunities presented.

Another notable aspect of a DN’s lifestyle within Colombia is their eagerness to expand their network outside of the DN community and learn from the native Colombians. From the Gurvičius (2021) study interviews, DNs report attending language exchanges, salsa clubs and schools, yoga studios, and sports facilities. DNs use their time to understand their host city better and engage with the community outside of working hours; this indicates a degree of cultural immersion. This study also states that the degree to which a DN interacts with the locals is based on their Spanish proficiency level, desire to leave the organized group of fellow DNs, and amount of time spent in Medellin. Numerous quotes from the Chova and Ehrlich-Treuenstätt (2023) study reflect the growing cooperation between DNs and local stakeholders. For example, one business remarks on their “main project… It's like doing partnerships with local entrepreneurs. So, we just want to connect nomads with locals to help with English, websites, and other kinds of things” (Chova and Ehrlich-Treuenstätt 2023, 33). The process is symbiotic as DNs actively participate in the budding friendships with local businesses, and one DN remarks, “You can support the local business with marketing knowledge or developing websites or designing logos and banners” (Chova and Ehrlich-Treuenstätt 2023, 33).

In Gurvičius (2021) a native Colombian named Christina, from the Medellin district Envigado, describes DN meetups' substantial impact. At one such event, she connected with a DN that broadened her thinking on e-commerce. She had previous work experience in international trade but learned about selling online from a DN and has since started importing
goods from Egypt and Turkey. This experience and “DN meetups opened [overall] new doors for her, and she is coming to every event since” (Gurvičius 2021). This experience is representative of one of the four basic patterns of knowledge transfer, which Nonaka (2007) describes as socialization. Socialization is the transfer of tacit knowledge when someone is “socialized” into the practice of something and obtains the capabilities through “observation, imitation, and practice” (Nonaka 2007). By interacting with the DNs continuously, Christina is practicing networking skills and generating knowledge that will be useful in her future e-commerce career. Another Medellin long-term resident remarks, “Also, these new technological solutions like meetups.com, couchsurfing.com and warmshower.org help to connect with foreigners on a different level. I keep learning so much from them” (Gurvičius 2021). These skill interchanges support the third branch of the conceptual model, as DNs spread their knowledge of IT services throughout their host cities.

The knowledge transfer facilitated by DNs is further epitomized in the work conducted at the coworking space, AtomHouse. This space is more technology career-based and designed for individuals working for startups or programmers. It manages projects and sponsorships with a humanitarian focus that connects DNs with the local Colombian community. One of these projects, founded in 2012 and known as Coderise.org, instructs low-income Colombian children on how to use and apply programming and coding languages. The program has been successful and has grown in popularity, even expanding its operations to other cities in Latin America (Gurvičius 2021). To demonstrate its significant influence, Gurvičius (2021) writes that, “the first kids who attended this program are already employed by startups based in AtomHouse.” This experience represents what Nonaka (2007) labels the fourth basic pattern of knowledge transfer – internalization. Understood as a transfer of explicit to tacit knowledge, it transpires
when an individual obtains hard skills and applies them “to broaden, extend, and reframe their own tacit knowledge” (Nonaka 2007). The explicit knowledge of hard coding skills turns into tacit knowledge when Colombian children acquire professional knowledge and expand their future career possibilities.

IV. Conclusions

The goal of an economist is to understand and explain in a structured way the working pieces of a social issue involving scarcity and consider the implications of these parts on an economy and society. The research question of this paper, understanding the economic impacts of digital nomads in Medellin, Colombia, was answered in three sections: the increase in prices of goods and services resulting in gentrification, the drive for entrepreneurship, and an exchange of both tacit and explicit knowledge. The cost-benefit analysis presented in this paper supports the sentiments of the first newspaper article I read on this topic in El Colombiano; this topic is more complex than simply prices and rents rising, as it is unwise to take, “the simplistic response to this situation… [and] shout: 'gringos go home' and assume that, without tourists, everything would be better” (Carvalho 2023). The examples referenced in this paper (particularly the bottom two branches of Figure 3) demonstrate that the onset of DNs can fuel economic growth and uplift certain sections of Medellin.

My analysis of the qualitative data suggests that while aspects of a DN’s presence stimulate the economy and foster social interactions, their detrimental impact on the housing markets receives negative feedback from local populations. Sandra Suarez’s story is one of many, as the majority of people in her building who were forced to leave were single mothers. She states, “Our building had lots of single mothers. It makes me sad to think about what could’ve happened to them” (Rueda 2024). On the other hand, the inspirational stories of
Coderise.org and Botero’s successful coworking cafe characterize the positive change DNs bring to Medellin by tapping into the already present high level of entrepreneurship and ambition for business. This paper accomplishes the research objective and confidently concludes that DNs are migrating and spending time in Medellin, Colombia by the thousands every month and gentrification is taking place within specific neighborhoods of Medellin. However, to understand the correlation and potential causation between DNs presence and gentrification, it would be necessary to conduct further research and regression analysis.

The individual costs and benefits are complex, but the immediate economic impact is presently felt in Medellin through rising costs of living conditions. Figure 5 depicts the posters being placed around Medellin by local activists making inculpatory statements such as “nomadas digitales, colonizadores temporales” and “todo está muy caro, detenga la gentrificación.” Translated into English, these phrases mean, “digital nomads, temporary colonizers” and “everything is very expensive, stop gentrification.” The other posters, translated, state “What happened with the rents? Stop gentrification” and “Change Airbnb. For neighborhoods and a home.” These posters express the rising tensions within the city regarding this issue. At a public forum designed to share community opinions, a person stood up and exclaimed, “I’m just hearing people say they are benefiting from this, so let’s sell Medellin and have people serve the tourists” (Jaramillo 2023). The examples presented in this paper show how the DNs’ arrival benefits individuals and facilitates economic advantages. Yet, the number of people forced to relocate and pay higher prices for the same goods should not be ignored, as the benefits do not unequivocally outweigh the costs. It is necessary to note that this paper does not imply that DNs are the sole cause of gentrification and rising prices in Medellin or Colombia in general. While they are a small piece of a larger puzzle, their potential impact cannot be underestimated.
Furthermore, this paper does not attempt to imply that the Colombian population requires skill transfer from foreign DNs or that they are lacking or inferior in any way.

This paper opens up conversations on the effects of tourism in general, as overcrowding and a surplus of tourism could lead to “prioritizing the needs of visitors and maximizing profits, often at the expense of the locals” (Chova and Ehrlich-Treuenstätt 2023, 13). Due to the projections of DNs’ portion of the workforce increasing, it will be necessary to reach a compromise among stakeholders in the public sector, private sector, and locals of the tourism industry in Medellin and other DN hot spots in future years. This will create a more sustainable infrastructure that will encourage prosperity for all involved. Proposed as a potential solution, the Medellin city government could intervene in the housing market and designate certain areas and neighborhoods of the city to be protected from Airbnb and short-term rentals (Carvalho 2023). The role of urban planners will become continuously more important in the coming years as renewal projects and restructuring of the city’s residential areas will mitigate the negative impacts of DNs.

Opportunities for further research include obtaining inflation data for Medellin and running a regression analysis to test the impact of the presence of DNs in that specific area. It would also be useful to determine whether there is a clear set of rules for the taxation of DNs. Throughout my research, I was unable to learn how many DNs use Airbnb as their preferred method of housing. Acquiring these figures will aid further researchers in determining the impact these platforms have on the Medellin housing market. Furthermore, future research could be geared toward understanding gentrification in Medellin and Colombia as a whole; while DNs certainly contribute to this social and economic phenomenon, it is crucial to understand if different expatriates or other forces are simultaneously increasing prices and taking advantage of
the geographic arbitrage as well. Two limitations to the research are the inability to find data directly relating to the influx of DNs and rising prices or the possibility of visiting the area and witnessing the community firsthand. Given the relative currentness of the topic, these are reasonable limitations, and it is important to note that the majority of the sources referenced have been published in the last five years.

This paper topic was chosen because of my interest in the Spanish language and connection with a UNH professor who is originally from Colombia. Colombia, and Medellin in particular, has undergone a high magnitude of positive change since gaining its international reputation as a center of a drug cartel. While this change is impressive and fundamental in uplifting the citizens on economic and social levels, it puts the city in a vulnerable spot due to its lack of adequate infrastructure that sustains mass amounts of tourism and mitigates the effects of gentrification. The DNs have an important part to play in developing solutions to this and understanding the consequences of their actions. Yet, the Medellin property and business owners take on roles in encouraging these industries, and to properly manage the increase of wealthier tourists, compromises must be made among all stakeholders in the DN lifestyle and movement.
References


Rueda, Manuel. 2024. “Medellín was one of the world’s most dangerous cities. Now, it's trying to grapple with an influx of tourists.” The World, January 5, 2024. https://theworld.org/stories/2024-01-04/medell-n-was-one-world-s-most-dangerous-cities-now-its-trying-grapple-influx.


Figure 1. Characteristics of DNs in the US Labor Force

US Labor Force DNs

17.3 million
(2% increase)

37% - Millennials
27% - Gen X
21% - Gen Z
15% - Boomers

56% - men
43% - women
1% - nonbinary

10.7 – traditional employees
6.6 – independent workers

Source: MBO Partners, Emergent Research, and Rockbridge Associates Survey (2023)
Figure 2. Home Countries of Digital Nomads in Medellin, CO

Source: Nomad List DN Subscription Website (2024)
Figure 2.1. Medellin, Colombia
Figure 3. Conceptual Model

A DN chooses Medellin as a host destination

- Geographic arbitrage in housing and goods/services markets
- Increased demand for specific goods/services
- Exchange of tacit and explicit knowledge
- Rents and prices are pushed up
- New entrepreneurial avenues created
- IT services, cultural immersion
- Gentrification
- Coworking Cafes, CoLiving Spaces
Figure 4. Comparison of Colombian Average Wages: 2022
In US Dollars

Source: OECD Data, Average Wages (2024)
Figure 5. Rising Rents in Medellin

<table>
<thead>
<tr>
<th>Neighborhood</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bolivariana, Laureles</td>
<td>81%</td>
</tr>
<tr>
<td>La Castellana, Laureles</td>
<td>58%</td>
</tr>
<tr>
<td>La Mansión, Villa Hermosa</td>
<td>58%</td>
</tr>
<tr>
<td>Los Conquistadores, Laureles</td>
<td>41%</td>
</tr>
<tr>
<td>Carlos E. Restrepo, Laureles</td>
<td>38%</td>
</tr>
<tr>
<td>Simón Bolívar, La América</td>
<td>53%</td>
</tr>
<tr>
<td>La Hondonada, Belén</td>
<td>50%</td>
</tr>
</tbody>
</table>

Source: Properati Data (2023)
Figure 5. Posters in Medellin

Source: Bloomberg, “Once Beset by Violence, This City in Colombia Now Struggles With Too Many Tourists” (2023)