



“The record industry: Digitalization and the Cost of Expression”

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Abstract

Digitalization has influenced a lot the cost structure of the record industry. With the advance of internet technologies (World Wide Web, compression and transmission technologies etc.), the costs of distribution and reproduction have been lowered. However, little, if any, research has been focused on the changes that digitalization has caused to the costs of producing the first unit of a music song or album, i.e. the costs of expression. The main aim of this dissertation is to provide some insights over the importance of the cost of expression in the record industry and to research the impact of digitalization on these costs. The record industry is being used as the ground for this study. The main hypothesis is whether or not digitalization has caused a significant decrease on these costs. This hypothesis has a twofold meaning. First, it is the issue whether there is indeed a cost decrease due to digitalization. The findings of this study indicate that probably there has been a decrease in these costs due to digitalization, and more specifically, due to the development of computer software. Second, it is the issue of what might constitute a significant decrease and how this might affect the business structure of the record industry. In order to assess the significance of any change a ‘quantitative’ and a ‘qualitative’ criterion is being used. These two criteria have been drawn by doing an evaluation of the relation between technology and production costs throughout the history of the record industry. The findings of this study suggest that digitalization has brought a decrease in the cost of expression. On the other hand, whether we can assess this decrease as significant is not so clear. Since, these issues are on-going events we cannot adequately evaluate the significance of any decrease. However, the relation between the artists and the record labels is the part of the record industry’s business structure that seems to have been influenced by this decrease.

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Chapter 1

Introduction

1.1 Introduction

This master thesis is about ‘change’. It is about changing the way of producing a valuable product; at least to the eyes of the author. This product is *culture*. Surely, this term encompasses many great things so we have to be more specific. The aspect of culture that its production is under investigation in this thesis is *music*. Creating music does not actually require much; a music instrument and creators with the need to “*seek expression of their experience and the images of life in an external medium*” (Golden, 2001). On the other hand, converting music to a commercial product requires many other things as well. Perhaps, the most important of them is an ‘audience’ willing to pay for this ‘product’ that can be easily classified as a luxury commodity. Hence, under this view it is not so strange that it took humanity more than 2000 years to reach its current state of having a large industry producing and trading this luxury commodity. According to official numbers, the size of this industry is considered to be around US\$ 130 billions (IFPI, 2007). However, this thesis is focused only in one part of this industry and mostly on the system of production not that of consumption. This part is where the music is being recorded and from this point on, this part will be referred to as the ‘record industry’. Therefore, this research is about changes in the way recorded music is produced. And what has caused these changes? The answer is technology. As we will see further on, technological developments are responsible for not only changing the way of production more than once before, but they are also the seeds for the very same birth, development, and growth of the record industry itself. One of these technological developments was electricity. Another more recent one is digitalization. This is the technology that has caused the latest changes, or at least the need for changes, in the record industry.

Digitalization is considered to be one of the most influencing technological achievements of the last decades, probably greater than the development of the internet technology itself (Towse et al., 2008). The record industry, with its current business structure and practices, is probably one of the industries who have been affected strongly by digitalization and other new technologies. This impact has been good in some occasions, like the introduction of compact disk (CD) as a mean of distribution for recorded music. Although in other occasions, it seems to have been less beneficial, as it is with the issue of piracy. In the existing literature, one of the most well-known areas that changed due to this technological progress is that of

reproducing and distributing a digitalized product such as a song or a movie via the internet. This has apparently led to the ease for anyone to legally, or sometimes illegally, own a copy of a copyrighted work of art. This widely debated problem of piracy over its extensions to the existing business model of the creative and entertainment industries has been the main focus of many scholarly articles and works¹.

However, little attention has been given to the effects of these new technologies on the production costs of cultural content products. These costs have been identified as one of the main entry barriers of these industries (Alexander 1994; Vogel, 2007). In fact, Vogel (2007) classifies ‘capital’ as primer in that list of entry barriers; though, the definition of ‘capital’ that he uses is more focused on its monetary expression. If we want to take a step further, the funds that make up the capital of any firm are “*nothing but the power to purchase labour and the products of other firms over the period during which the firm has no output to sell*” (Blaug, 1997: 178). For the record industry these products constitute the recording equipment. Thus, for this thesis the costs of these equipments are in the center of attention.

Interestingly, there are indications in some articles that due to digitalization these costs have been greatly reduced (Varian 2005; Kretschmer et al., 2001; Ku, 2001; Burnett, 1996). Also, Anderson (2006) recognizes the democratization of “*the tools of production*” as one of the three forces that have created the Long-Tail phenomenon². One of the reasons that this fact has been observed is due to the advent of new technologies which make the access to these means of production cheaper than it used to be (Anderson, 2006). Moreover, a well-known artist³ in a recent interview has stated that there is a significant decrease in the recording costs, a fact that has generated the on-going “myth of ‘almost zero’ recording costs” travelling around the blogosphere. But how close to reality is this myth? Interestingly, there is also available in the blogosphere an attempt to assess the reality of that myth⁴. Hence, this study is trying to explore the impact of digitalization over the costs of producing the

¹ Some of them are Norbert (2004, 2006), Liebowitz (2004, 2006), Peitz and Waelbroeck (2003), Zentner (2003), and Takeyama (2002).

² The Long-Tail phenomenon refers to the fact that while the cultural consumption, in terms of sales volume, is mostly concentrated in few acts, it also exists a huge amount of different smaller acts that are selling, but at not at such significant levels.

³ “David Byrne's Survival Strategies for Emerging Artists and Megastars” (18/12/2007), Wired magazine issue 16.01: www.wired.com/entertainment/music/magazine/16-01/ff_byrne?currentPage=all

⁴ “The Myth of ‘Almost Zero’ Recording Costs” (1/5/2008): www.musicthinktank.com/blog/the-myth-of-almost-zero-recording-costs.html

first copy of a music product, be that a single song or an entire album; what Landes and Posner (1989: 327) refer to as “*the cost of expression*”. Thus, the research question of this paper is:

“Has the cost of expression changed significantly after the advent of digitalization and the development of computer software?”

Consequently, the abovementioned statement leads to two main sub-questions. The first sub-question being “*is this change significant in a qualitative or quantitative sense?*” and the second is “*how can this change affect the current structure of music production in the record industry, or the music industry as a whole?*” Of course, since there are indications for a cost decrease rather than an increase, this study presumes that the direction of this change is meant to be downwards. These are the issues that I am going to address with my thesis.

The main aim of this dissertation is to provide some insights over the importance of the cost of expression in the record industry. The cost decrease of the reproduction, manufacturing, and distribution costs due to digitalization is obviously quite larger and more drastic than the seeming decrease in the cost of expression. But hopefully, in the conclusion the importance of the cost of expression, thus their cost decrease, will appear in the long-run to be at least equally important and drastic. In short, I will try to do a historical appraisal of the role of the cost of expression in order to contribute to the understanding of how digitalization can influence the production of music.

1.2 Theories and Objectives

Perhaps, the first question in mind is whether a research on the relation between digitalization and production costs is important or useful. Thus, the following theories have been used as the basis for justifying such a research. The theoretical perspectives adopted in this essay are mainly from the field of economics.

The major theory employed in this thesis is that of industrial organization. The key concept is entry barriers in an industry whereas diminishing entry barriers usually enhance competition. But is competition good? And what do we mean by “competition”? Most economists would agree that competition is desirable and

policies in USA and Europe usually attempt to boost competition in many industries, i.e. antitrust and competition law. But is this static view of competition, the “*end-state of rest in the rivalry between buyers and sellers*” (Blaug, 2001: 37) taught in many economic textbooks the *raison d'être* for the desirability of competition in a market economy? To this question probably many economists would answer “no”. It is the concept of competition as “*a process of rivalry*” (ibid) and the efficiency of that nature of competition which is “*ultimately responsive to consumers' demands, technologically dynamic and produces the goods that are wanted at low cost*” (ibid). This is why competition is desirable in the market of many industries and this is the concept of competition that this essay will adopt. However, competition is only plausible in a market economy, thus, in order to be clear with the definition of some basic concepts of economics used in this dissertation we also have to define the meaning of the term “market”. The neoclassical approach uses this term to describe the mechanism which allocates best the scarce resources of an economy to their productive tasks (Mankiw and Taylor, 2006). The abovementioned theory of industrial organization, which belongs to the neoclassical approach, despite the fact that makes use of this definition of the term “market”, it also emphasizes another aspect of the market. The so called “discovery process” enclosed in the view of ‘imperfect competition’ in a market where the visionary, innovative and ‘alerted’ entrepreneurs successfully discover new products and processes (Baumol, 2002; 2007; Buchanan and Vanberg, 2008). This is closer to “*the “Austrian view of competition*” as labelled by Blaug (1997: 594) with the emphasis on its dynamic efficiency. Thus, this view of the term “market” is more suitable for this study. Additionally, there is also another interesting view of the market. It is one that regards it not as a ‘discovery process’ but as a ‘creative process’ (Buchanan and Vanberg, 2008). The main difference is on the fact that not all new products and processes are waiting to be found; some of them are originally created or invented. Of course, this view adopts an entirely different, nonteleological perspective of the market since the “*market economy, as an aggregation, neither maximizes nor minimizes anything. It simply allows participants to pursue that which they value...*” (Buchanan and Vanberg, 2008: 389). This is more in accordance with an evolutionary approach to economics rather than the neoclassical approach (Lipsey, 2005). Obviously, there are significant differences in the methodologies adopted by these approaches as well. However, this study uses elements from both of these approaches since its main task

is to contribute to the understanding of a particular fact, i.e. the advent of digitalization in the music production.

The seminal work of Landes and Posner (1989), which is an economic analysis of copyright law, provides another useful framework to understand the importance and the role of the ‘cost of expression’. According to them, the central problem of copyright law is to strike the “*correct balance between access and incentives*” (Landes and Posner, 1989: 326). By their view, intellectual property is characterized by its ‘public good’ aspect. This diminishes the ability of the creators to fully appropriate via the market the cost they have incurred for ‘fixing’ their creative ideas in a tangible form. Thus, one function of the copyright law is to impose a higher price than the market would have to any work of intellectual property. This allows “*the creator to cover the fixed or sunk cost of creating the work*” (Towse, 2008: section 2). This is the ‘incentive’ side of the abovementioned balance. From the other side we have the ‘access’ part. Copyright law raises the costs for later creators to use a part of a previous copyrighted work into their new creations. Thus, stronger copyright “*acts as a disincentive to other, later creators*” (Towse, 2008: section 3). Therefore, strengthening copyright would seem inappropriate in an economic sector where production costs, including the cost of expression, have diminished significantly and the need for new creative and diverse works are desirable. Does the record industry fits to this kind of description? In my opinion, the answer is ‘yes’ and this thesis will try to argue for this position.

In addition, apart from the economic theories, economic concepts and the economic analysis of copyright law, this study also uses some concepts, ideas, and theories from the field of sociology. There is a substantial body of literature that has focused on the issue of diversity and production in the music industry and works such as Peterson and Berger (1975; 1996), Lopes (1992), Burnett (1996), Dowd (2004), and others provide interesting information about the relation of cultural production and technology. Moreover, the analyzing lens of contract theory by Caves (2000) offers interesting insights of the environment that have shaped the contractual agreements in the creative industries.

In closing this section, there are three main objectives in this thesis. In order of appearance in this essay, the first one is to examine the role of the cost of expression throughout the history of the record industry. The second is to describe some basic aspects of the present status of this industry under three angles. These are the angle of

the creators (mainly the artists), the angle of the intermediaries (mainly the record companies), and the angle of end-users or consumers. The third and last objective concerns how the technology of digitalization has changed the cost of producing the first copy of a recorded music product, i.e. a song or an album, from the viewpoint of two basic factors of production; labor and capital.

1.3 Methodology and Methods

Researchers are guided by a ‘set of philosophical rules and beliefs’ about what is their subject matter and how they can go about investigating it. Sometimes they manage to make these rules and beliefs explicit so that everyone else will know their views on these matters, but all too often they do not (Seale, 2004). However, every study is conducted within some philosophical limits. Two main philosophical approaches to social sciences are the ‘*naturalists*’ and the ‘*interpretivists*’. The former believe that methods of investigation in the natural sciences should function as a model for research modes in social sciences while the latter are of the opinion that these kinds of methods are irrelevant to what social sciences are meant to investigate and perhaps what is labeled as social sciences should not be called ‘science’ at all (ibid).

Which of these two approaches will this essay adopt? According to Blaug (1992) ‘economics’ is a science, albeit a peculiar one. Since this study intends to have an economic viewpoint, a naturalistic approach seems more suitable. Thus, it is useful to have as a starting point the “*fundamental or regulative principles which underlie*” (Seale, 2004: 8) the discipline of economics, i.e. the methodology of economics. By this term I do not refer only to the methods of investigation but also to “*the relationship between theoretical concepts and warranted conclusions about the real world*” (Blaug, 1992: xii).

‘Economics’ as a science has its own evolution and its methodology has its own history as well. Economists initially had adopted a methodology based on verification. Its purpose was mainly to “*determine the applicability of economic reasoning and not really to assess its validity*” (Blaug, 1992: xxv) Later on, economists chose to adopt another methodological standpoint, that of falsification. That is to say that “*science is that body of synthetic propositions about the real world that can, at least in principle, be falsified by empirical observations*” (ibid: 13).

According to Blaug (1992) however, modern economists “*frequently preach falsificationism...but they rarely practice it: their working philosophy of science is aptly described as ‘innocuous falsificationism’*” (ibid: 111). The presence of ‘immunizing stratagems’⁵ has prevented the neoclassical research program from reaching “*the highest standards that scientific knowledge can attain*” (ibid: 248).

Therefore, this dissertation by using certain economic theories silently goes along with the abovementioned methodological standpoint. But more specifically, the research itself fits more neatly into another methodological approach, one that describes better the working methodology of institutionalists or the applied economics of the neoclassical research program (Blaug, 1992). This is labeled by Ward as ‘storytelling’ and it is “*the binding together of facts, low-level generalizations, high-level theories, and value judgments in a coherent narrative*” (ibid: 110). The choice of this methodology is based upon two reasons; first, the explanations of institutionalists “*emphasize ‘understanding’ rather than ‘predictions’*” (ibid: 109), and second, “*institutionalism is more able to address questions of structural change*” (Hodgson, 2008: 411). Thus, since the main goal of this dissertation is to contribute to the understanding of how digitalization has influence the production of music this methodological approach seems more appropriate.

There are three research methods employed in this study. One is literature review; the first two objectives are carried out by reviewing academic books, articles in journals, business magazines, and other more technical texts. The third objective was brought about by two other research modes. Firstly, in order to produce examples of the price levels of some recording equipment, and their cost decrease, prices of this gear were collected from business magazines for a period of nearly ten years. Secondly, interviews, in the form of an on-line survey, were conducted in order to provide some more information about the nature of change that digitalization has brought in the production of music due to the decrease in the cost of expression.

1.4 Structure of the thesis

All chapters have a distinct aim but, each one serves a more general purpose as well. Thus, the second chapter is meant to provide a set of premises that will help us

⁵ Immunizing stratagems are certain types of stratagems adopted by scientists to protect their theories against refutation (Blaug, 1992: 250)

decide whether the cost decrease due to digitalization can be regarded as significant or not. The third chapter will sketch the positioning of the cost of expression in the ongoing environment of the record industry and the relations that can be affected due to a change in them. Thus, the two following chapters serve the purpose of providing us the guidelines that we will use to look for the 'right' or meaningful signs to answer the two sub-questions posed earlier. Consequently, chapters four and five serve the purpose of presenting the data gathered to answer the abovementioned questions and the concluding chapter six is a discussion over the possible findings of this study as well as its limitations.

In more detail, the next chapter is a historical account of the record industry under three different lenses. First, the lens is focused on the major technological developments of the industry that had an important impact on the cost structures; second, the focus is on the industry structure and how this has been influenced by different cost structures. Despite the economic nature of the two previous lenses, the last lens is related more to the field of sociology and is focused on the issue of how industry & production structure relates to the diversity of products available to consumers.

Chapter number three starts with a brief description of the major production costs of this industry. It continues to portray the present status of the record industry from the three different angles mentioned above; these are that of the artists, the record labels, and the consumers.

Chapter number four presents some illustrations of how a digitalized product, in this case a software application, might have transformed the capital and labor requirements of the cost of expression. Some examples for the estimation of the maximum size of this cost decrease are also provided in this chapter. However, a grounded quantitative estimation is not attained due to the complexity of the composition of the cost structure and the lack of reliable data.

The fifth chapter presents the findings of a questionnaire that has been created in order to explore the potential signs of the effect that digitalization has on the cost of expression.

Chapter 2

Historical Perspectives of the Record Industry

2.1 Historical Perspectives of the record industry

The aim of this and of the following chapter is to provide a satisfactory description of the environment, and its evolution, within which recorded music is produced. It will be made clearer to the reader of this thesis the role that production costs play in the record industry of popular music. For the definition of the term ‘popular music’ I will adhere to that provided by Connolly and Krueger in their work *“Rockonomics: The Economics of Popular Music”* (2006: 669). There they define popular music as *“music that has a wide following, is produced by contemporary artists and composers, and does not require public subsidy to survive”*. Unless stated otherwise, this is the meaning attached to the term ‘popular music’ in this thesis. After presenting in this chapter its history under three main perspectives, then in the next chapter the present status of this industry will follow together with the description of its current major costs and the main players or interest groups involved.

2.2 History of Technological Developments

According to Tschmuck (2006), the ‘conceiving’ period of the record industry can be positioned somewhere near the end of 1800s’. It was inventors like Thomas Edison, Emile Berliner, and Eldridge Johnson who made the first attempts for the creation of the technology and machines with decent capabilities of capturing and reproducing sounds. Tschmuck also points at the year 1902 as the time of birth of the phonographic industry, i.e. the record industry. It was 1902 when an invention of Johnson, a wax record, and the gramophone invented by Berliner largely became the standard of recording and replaying machines⁶. As a distribution mean of the recordings a form of a disc made from shellac⁷ prevailed. From then on and until the advent of electricity the attention was totally shifted from the hardware of sound production to the content of these wax records.

A big change occurred in this sector around 1925 when electricity was introduced in the way sounds were captured. Because the previous technology was mostly acoustic, recording musicians had to stand in front of a cone-shaped tool in

⁶ From the end of 1890s until the beginnings of 1900 several replaying machines and materials used for the recording of the sound were available and were seeking to become widely accepted.

⁷ Shellac, according to Tschmuck (2006) is “a mixture of tree resin and wax secretions especially of a scale insect, which exists only in certain parts of India.

order for their performance to be captured and recorded. With the advent of electricity and together with the help of another developing technology, the microphone technology, better and richer recordings in terms of sound and quality, were possible to be made. Musicians did not have to stand firmly in front of any funnel plus more musicians were able to be recorded simultaneously. Thus, orchestra and classical recordings started to make their appearance in the phonographic companies' repertoire. That is the first indication of how technology affects and enriches cultural diversity in this industry. This new method of recording, labeled as 'microphone recording' was one of the two major causes that grew the size of this industry. The other one was the development of radio technology. Thus, an integration of a radio signal receiver inside the produced phonograms increased the overall sales of phonograms boosting also record sales (Tschmuck, 2006). However, even in this 'electrical' environment musicians still had to perform a nearly perfect song in the process of recording since no further editing was possible at that time. In addition, repeating an entire recording session was still a very costly action (Eargle, 1980).

An even more revolutionary technology that altered decisively the cost of setting up a recording studio and the process of the recording artists' performance was that of the magnetic tape recording (Tschmuck, 2006; Anderson, 1994; Eargle, 1980). Although, tape recorders have already been used in other sectors, mostly in ordinary businesses for dictating, or in radio shows' broadcasts (Eargle, 1980), it was not until late 1940's and from several small independent record companies that this technology was adopted in the recording procedure of music songs (Tschmuck, 2006). In combination with the replacement of the music records made so far from shellac with the less fragile, more easily found, and longer in storage duration vinyl record or LP, the music industry managed to grow even more. In addition, it was now possible to offer also a more diversified repertoire since there were many new independent record companies joining the market since the production costs have been decreased enough. A very interesting comment that Tschmuck (2006: 94) makes on the potentials that this new technology provided is the following: "*[f]rom this point on, it was possible to install a recording studio literally in a garage*". This brings to mind several similar comments on today's ability of technology to produce an album in the same PC used to check e-mails⁸.

⁸ See footnote n. 3.

The magnetic tape recording brought also significant changes in the way recordings were actually made. With previous technology, performers should practice the song beforehand and then come all down to the studio and play it together at a nearly perfect level in order for the session to be successful. The sounds were then captured on a wax cylinder. No further change could be made in the sound recording unless the session was repeated. The change that occurred with the advent of magnetic tape recording was that editing techniques already used in film production were suddenly available to sound production as well. Moreover, as magnetic tape technology developed it became very cheap, so musicians were not obliged anymore to come fully prepared in the studio and perform almost perfectly (Tschmuck, 2006). Mistakes and retakes⁹ were now affordable. More technological advances resulted to multi-track-recording techniques, overdubbing, mixing of the sound, and adding of special effects¹⁰. A famous outcome of these developments was the first concept album in the history of recorded music. That was Beatles' album "Sgt. Pepper's Lonely Hearts Club Band" (ibid). A final crucial change caused by these new technologies is the emergence of the 'music producer' as a prominent player in the production of music. With these new technologies, there was no need for all the musicians to perform simultaneously the song in order for the recording to be made. Every musician could now come to the studio to perform his/her part and then leave. The final outcome or the final mixture was under the responsibility of the music producer. Many producers pioneered and became famous those days with their ideas over the sound designing and the effects added on the recorded material. As we will see further on digitalization, in a way, has made now the application of these ideas to any sound recording accessible and affordable almost to anyone with a decent PC and a good software application for music production.

The last major technological advancement introduced in the record industry has been the digitalization of the recorded material. It is important to note here that this technological development is still in progress and one of its recent by-products is the compression technologies that have given us the infamous MP3 together with all its implications. Still, an older very well-known outcome of digitalization is the introduction of the compact disc (CD) as a mean for distributing sound recordings somewhere around 1985. Its superior sound quality and its more sturdy material led to

⁹ A retake refers to the repetition of a recording session.

¹⁰ Some of these techniques will be explained in a following chapter.

its prevalence over the LP and the magnetic cassette (MC) format at the beginning of the 1990s (Vogel, 2007). This created to consumers the need to substitute their previous repertoire in LPs or MCs with the CD format, driving the size of the record industry onwards. Some other, though less known, 'by-products' of digitalization that were used in the production of music were the MIDI and the DAT technologies. MIDI stands for 'musical instrumental digital interface' and it is in effect a communication protocol similar to the internet protocol. Its basic use was to synchronize and combine the uses of electric music instruments such as the synthesizer and drum machines with computers, sound cards, and other electronic equipment. This according to Vogel (2007) increased significantly the productivity of recording studios, composers and musicians in general. A DAT was actually the replacement of the magnetic audio recorder. DAT stands for 'Digital Audio Tape' and it was actually a digital tape in which the sound recordings were first stored after the performance of the musicians. Then it was used as the data source from where the final mixture was processed, finalised, and in a form of a master mix was stored in another DAT (Watkinson, 1998). An outcome stored in this latter DAT was then used as a prototype for the mass production of the sound recordings. The technologies of MIDI and DAT did not cause the same striking changes in the way music was recorded as the electricity or the magnetic tape recording had done. However, it was the first step from completely analogue sound recording and process to digital sound recording and process; a change that, as it will become more apparent in the following chapter, made possible the progression to virtual, and relatively very cheap music production.

2.3 History of Concentration and Deconcentration

As we have seen above, the birth and the development of this industry was, and still is, closely affiliated with technology. According to Alexander (1994) the record industry has been through two interchanging phases of concentration and deconcentration and it is now through the third phase of concentration. The first concentration period begun together with the birth of the industry, around 1890-1900, when only three major companies produced goods related to audio playback devices and audio records. Then, from 1900 to approximately 1923 many other firms jumped in due to new and cheaper manufacturing technologies, thus the industry became deconcentrated. The second concentration wave started around 1923 and lasted up to

mid 1950s'. According to Anderson (1994), the major cause for this was horizontal integration. However, from Tschmuck (2006) we get two more reasons. These were the great economic depression in U.S. and the Second World War in Europe. As mentioned also in the previous section, at the end of 1940s' magnetic tape recording technology made it easier for new entrants to step in, so these actions resulted the second deconcentration phase from mid 1950's to mid 1960's. Of course, it was not only the appearance of cheap means of production that made this possible, but also the development of local independent radio stations from where these smaller record companies managed to promote their repertoire. Moreover, the emergence of Rock 'n Roll culture which was encouraged from the new market players was not so well received and welcomed by the major record companies of that time or by the already established artists of that period (Tschmuck, 2006). This attitude provided more space for new entrants to develop. Another helpful element of this second deconcentration period is the great diversity that was created at the level of products offered to consumers by all these new independent record companies. So, this is the second strong indication of how cultural diversity is affected by technological developments. After the mid 1960's subsequent acquisitions and mergers in a horizontal but also in the distribution level, had as a result the high concentration level that is still present in our days (Anderson, 1994).

It is useful to note that during the second wave of deconcentration (around 1955-1965), independent record companies took advantage of new cheap recording equipment and despite the fact that majors already controlled the distribution of sound recordings, they managed to develop their own distribution network (Peterson and Berger, 1975; Tschmuck, 2006). This allowed them to grow for almost ten years. It was this alternative distribution network that the majors successfully acquired and put more economic pressure on independent record companies, in order to drive them out of competition and end up either being bought out or bankrupted (Anderson, 1994). This suggests that not only cheap means of production are needed for someone new to enter and flourish in this market but at least a distribution network out of majors' control as well.

In closing this section, two more aspects are presented and considered insightful for the purposes of this master thesis. Apart from costs of recording equipment, and distribution network, two other developments have made entry in the record industry more difficult over the years. The first one is the main product unit of

the industry. Up until the beginning of the 1970's, it was the single format¹¹ that prevailed in the level of sales, so naturally the cost of producing a single was the main ingredient of the production costs as an entry barrier. As the decade progressed this fact changed and a sum of songs (around 10), rather than just one or two, became the most prominent product unit of the industry; it was called 'the album' (Strobl and Tucker, 2000; Lopes, 1992). The main reason for this was that new technologies in manufacturing had allowed for more songs to be carried over the same medium, be that the LP or the analogue audiotape cassette, which was then priced three times the price of a single (Strobl and Tucker, 2000). Price techniques, such as 'bundling' helped the prevalence of the album as the main product unit¹². Clearly after this change, the size of production costs was significantly increased since, in contrast to the single format, more songs now had to be recorded. This raised the amount of initial capital needed for someone to enter this market. Thus, the significance of production costs as an entry barrier was now greater. However, in a digital environment, this concept of album starts to lose some of its power (Burnett and Wikström, 2006). Secondly, after the development of the music television channel 'MTV' a second factor emerged. This was the need of a video clip as one of the main promotional tools for new acts¹³. This has pushed further up the cost of promotion which is another significant entry barrier for this industry (Alexander, 1994).

2.4 History of Organization of Production and Diversity

Sociology has turned out to be a field that has studied a lot the production of culture by using the record industry as its research ground. Interestingly, many of these studies make use of an economic theory, i.e. industrial organization¹⁴. Thus, they are a very useful set of works that provide many valuable insights concerning the issues of this study.

¹¹ Single format means that one or two songs were considered as the industry's main unit product. This is in contrast to the album concept, which is a sum of more songs, nearly ten (Strobl and Tucker, 2000).

¹² This 'prevalence' was both in terms of sales volume and in the minds of artists. They were now aiming in recording a full album rather than just a song.

¹³ The other major one was radio airplay. However, these concepts will be more thoroughly explained in a following section.

¹⁴ See for example Peterson and Berger (1975; 1996), Lopes (1992), Dowd (2004), and Peterson & Anand (2004).

One of the most prominent issues of these studies is the relation between industry & organizational structure and diversity of output. *Industry* structure refers to the concentration ratio of the market; however, we have to acknowledge here that in the cultural industries there is a distinction between who owns the legal rights of a creative work and who has actually created it. In the case of industry structure, most of the times, we are referring solely to the concentration ratio of ownership (Peterson and Berger, 1996). *Organizational* structure refers to the ways that creative inputs and the massive humdrum production of culture is organized. Here we can distinguish two different systems; the first one is described as a ‘closed’ system and the second as ‘open’ system of production (Lopes, 1992). *Diversity* or even better *cultural diversity* is perhaps one of the most difficult terms to adequately describe (Benhamou and Peltier, 2007). Despite the efforts to pin down this term, the majority of the abovementioned studies focus mostly on a very important, but not sufficient if alone, aspect of diversity; that of variety¹⁵. Moreover, they are also more concerned with reflective diversity, meaning “*the degree of response of supply to demand*” (Benhamou and Peltier, 2007: 90) rather than open diversity which refers to supplied diversity; the latter term is more sufficiently handled in the works of Burnett (1996) and Wikström (2006). Nonetheless, these studies have produced very valuable insights that will be used in this dissertation.

Two adverse ‘forces’ influence the degree of diversity in the record industry. One is the ratio of industry concentration where too high¹⁶ ratio means less diversity or more homogeneity of products (Peterson and Berger, 1975; 1996); the second is the organizational structure of production where a more decentralized system of production, in terms of independent financially agents or artistically free creators, enhances diversity (Lopes, 1992; Dowd, 2004) while the opposite ‘centralized’ system cripples diversity.

Historically, until the 1950s’ the record industry had adopted a very centralized system of production and offered a rather homogenous product. Between late 1950s’ and 1960s’ the introduction of rock ‘n’ roll by numerous independent companies that have also managed to developed a separate distribution and

¹⁵ The other two are ‘balance’ which refers to the patterns of distribution and ‘disparity’ which refers to the categorization scheme adopted in every study. For more see Benhamou and Peltier (2007).

¹⁶ Alexander (1996) states that too low concentration ratios have the same result as well.

merchandizing network led to the tapping of “*the unsated demand*”¹⁷ of the popular music market” (Lopes, 1992: 56) by these independents and to the deconcentration of the industry¹⁸. This fact changed the strategy of the remaining and prospective major labels towards adopting a decentralized system of production so that they would not be ‘caught out’ of any new music trend again (Lopes, 1992; Dowd, 2004). This meant that innovative independent companies or producers, or relatively independent divisions within the same company were now performing the task of spotting new talents and music trends. When an act was beginning to create “fuzz” the majors would usually step in and either buy out the act or make a distribution deal with the independent agent. Hence, the majors had managed to control the market by controlling the distribution networks. They had chosen to decentralized or “outsource” the innovative task not so for diversity reasons but rather for spreading the risk of their investment portfolio (Lopes, 1992; Burnett, 1996; Wikström, 2006). So, it was then that for the first time the record industry had a high concentration ratio and offered great diversity in the same time¹⁹.

The contribution of sociology on the production of culture is by no means exhausted here. There is at least one more insightful line of works that has resulted what Peterson and Anand (2004) call the “Production of Culture Perspective”. They have identified six facets that influence the production of culture. These are technology, law and regulation, industry structure, organizational structure, occupational careers, and market²⁰. Since the record industry produces ‘culture’ this concept provides further support that digitalization, as a technological element, has a direct influence in the way that recordings are made.

2.5 Conclusions

We have sketched in this chapter some of the most important features of the evolution of the record industry. Thus, our aim has been fulfilled. However, the purpose of this chapter was to provide a set of premises that will help us decide when a change in the cost of expression can be regarded as significant or not.

¹⁷ This term refers to the “*potential consumers, whose tastes are not met by the homogenized product, [who] withdraw from the market*” (Peterson and Berger, 1975: 163).

¹⁸ As was mentioned earlier in this chapter, this was made possible mainly due to the introduction of cheaper recording equipment.

¹⁹ Hence, the ‘force’ of decentralized production is supposed to be stronger than the concentration ‘force’ in relation to diversity.

²⁰ For more details see Peterson and Anand (2004).

To assess a change, or more accurately a cost decrease, as *quantitatively significant* it has to be in such an extent as to allow for new players to enter the market. Such signs are the independent companies of the early 1950s' that due to cheaper means of production could “*install a recording studio literally in a garage*” (Tschmuck, 2004: 94) or the nature of decentralized production that followed the advent of rock' n 'roll (Lopes, 1992; Dowd, 2004). Respectively, for a *qualitatively significant* change there has to be a change in the method of making recordings such as those that occurred with the advent of electricity or magnetic tape recording and have managed to produce recordings of greater diversity that have satisfied a new fraction of the unsated demand.

Chapter 3

The Record Industry

3.1 The Record Industry

According to IFPI²¹ (2007), a very broad definition of music industry includes any music-related business activity and its worth is estimated at about US\$130 billions. This includes record companies, selling musical instruments, live performances, publishing, revenues from radio advertising, and other. However, for this thesis, only a part of it will be under the spotlight. This is the industry which produces the sound recordings.

The record industry now accounts for the amount of 15 billion US dollars²² (IFPI, 2007), or if we include revenues from publishing, then the value climbs up to US\$ 29 billions. Without denial, this industry had better times before. Almost a decade ago, in 1999, and prior to the advent of peer to peer networks, the revenues were nearly 48 billion US\$²³ (IFPI, 2001). The issue of piracy and the turbulence that new technologies have created are also causing problems at the business structure that had evolved and prevailed through time and formed the way things were done in this commercial sector so far.

3.2 Present Status

Until very recently, the few major record labels were enjoying a very beneficial market structure. According to Bishop (2005), that structure was recently identified as an *oligonomy*. This term originates from two other terms. One is *oligopoly*. This market structure implies that there are few sellers controlling a market of a particular product type²⁴. The second term is *oligopsony*. This means quite the opposite. There is a market with many sellers of the same kind of product but only few buyers. So, as Bishop (2005) cites Hannaford “[i]n an oligonomy, companies act as an oligopoly to one group and an oligopsony to another”. As far as it concerns the record companies these two different groups are the artists and the consumers. As the

²¹ The International Federation of Phonographic Industry (IFPI) is an organization that represents a large part of the companies in the record industry worldwide (www.ifpi.org).

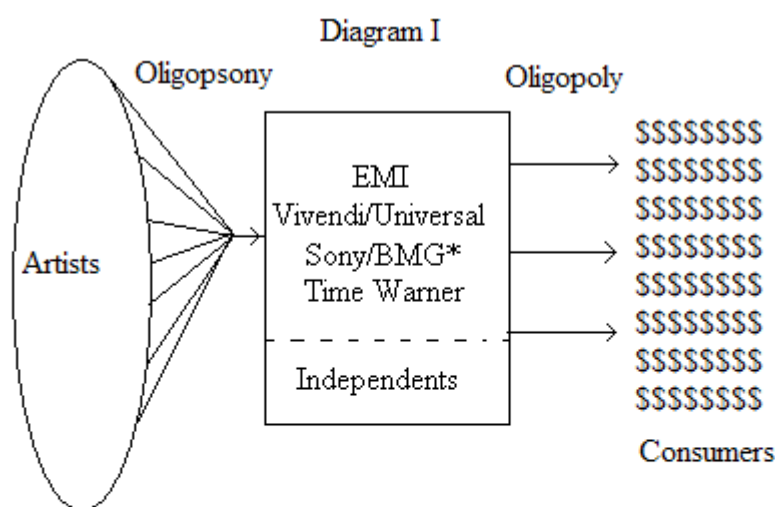
²² Here, the record company revenues are physical and digital sales, performance rights income and licensing income (IFPI, 2007). All are in retail level.

²³ This amount is converted to 2006 US\$. In 1999 terms, that amount was 39.9 billion US\$. This number includes only physical sales (CDs, LPs, MCs, singles) in retail level.

²⁴ For more information see Appendix A.

following diagram (I) shows, from one side there is a plurality of artists²⁵ willing to ‘sell’ their creations to the remaining four major record²⁶ companies and on the other side there is a vast number of international consumers willing to buy their products.

In terms of concentration the ‘Big-Four’ as they are unofficially labelled, that is four record companies (EMI, Time Warner, SonyBMG, and Vivendi/Universal), control near the 75% of the world market (Bishop, 2005). Of course, this fact has contributed a lot to the homogenization of the products offered to consumers. However, it exists also a significant number of smaller independent record companies, as well as many amateurs, many of whom are producing recordings literally in their room.



Oligonomy Conditions in the Record Industry

(source: Bishop, 2005)

3.3 Major Costs in the Record Industry

The significance of the production costs is perhaps more appropriately evaluated if an overview of all the major costs in the record industry is presented. For this industry these costs can be unfolded into four major categories. First, are the recording costs; these are the costs that occur for the creation of a sound recording

²⁵ The relation between artists and record companies will be addressed in greater detail shortly.

²⁶ Of course, there are also the independent record companies which are depicted in the diagram. Nonetheless, in terms of market power they represent only around 25%.

* During the writing of this thesis there was a change in the merger of Sony/BMG. However, for the purpose of this study it does not make any significant difference.

based on artists' creativity. After this creation has gone through certain stages that we will examine later on, the second set of costs begin. These are the costs that include the manufacturing and the packaging of the sound recordings in the format that it will be introduced to the market shelves or reach the consumers in general. The third set of costs is for distributing the format in which the sound recordings are packaged. Finally, there are the costs of marketing and promoting these recordings. Next we will see these costs in more detail and explore how they affect the relationships between the main players of this industry.

3.3.1 Recording Costs

Before any other set of costs occur, there is the process of actual recording the creative ideas of the artists. It is mainly these costs that are being covered by the advance payment, the first loan that artists get from the record label (Fisher III, 2004). Some evaluations for these costs have been around US\$4,000-25,000 for an independent production and US\$100,000-500,000 for a major production (Alexander, 1994; Ku, 2001). Thus, logically, the significance of these recording costs is great both to artists that will receive a loan for this money, and for the record companies that will give this money. Moreover, according to Peitz and Waelbroeck (2005), recording costs count for the 15-30 % of the retail price of a CD²⁷. So, almost one third of the price that consumers are paying is due to recording costs. Two things influence these costs. The first thing is the total cost of acquiring, or hiring, the necessary equipment for the recording sessions. Of course, as we saw in the previous chapter, throughout the history of this industry the components of the equipment needed to record music have never stopped changing. This should be mainly attributed to technological developments that altered also the methods and practices used for the recording of music. The second thing is time. The most common practice employed by record companies is to provide artists with a form of a loan, i.e. an advance payment, in order to rent a studio facility to record their creations. This payment covers the costs of renting the required recording equipment and also the wages of the sound technicians or music performers involved in this process. These wages are typically a function of time. The more time is required to devote to a

²⁷ As an article cites IFPI, the average retail price of a CD was 17 Euro (Peitz and Waelbroeck, 2005).

project the higher their monetary compensation will be. As we will see in more detail in the next chapter, new software applications have simplified the methods and sound manipulation techniques of sound recordings. This outcome contributes to a further decrease in the cost of producing music content since the need for technical skills is reduced (Fisher III, 2004). The main stages of the recording procedure are the actual recording of artists' performance, the mixing and process of these sound recordings, and the mastering phase where the prototype for the mass production is finalized²⁸.

3.3.2 Manufacturing Costs

After the first unit of the sound recording has been created and fixed in a format that can be used as a prototype, then the phase of the mass production starts. However, information about the size of manufacturing costs is scarce, hence we cannot say much. Again, according to Peitz and Waelbroeck (2005) these costs are estimated to be around 6% of the retail price of a CD. Yet, after the advent of digitalization it is almost certain the fact that these costs have decreased. Firstly, with the introduction of the CD format the breakage costs of the LPs' were cut further down. Moreover they gave much more quality and endurance to the sound recordings than the previous LPs' and analogue tape cassettes had. Also, lately with the MP3 format one of the greatest advantages is that the producer, in contrast to the needs of the CDs, LPs, and MCs, does not have to estimate the possible sale volume of a prospective title of the sound recording. Any reproduction of the sound recording can be realized instantly on demand, and with almost negligible marginal costs.

3.3.3 Distribution and Retailing Costs

Distribution of sound recordings, and who has the control over distribution, has been extremely significant in the market structure of the record industry. As mentioned also above, by acquiring the independent distribution network developed in the mid 1950's majors managed to regain their market shares extensively and create a consolidated market again. But even then, the relation between the record companies and the retailers had the following elements that drastically changed in early 1980s'.

²⁸ These stages will be more thoroughly explained in the next chapter.

Retailers ordered an amount of titles and if some units remained unsold, they were returned back and credits for the latest releases were then provided for them. However, as demand for recorded music declined sharply in the beginning of the 1980s' this practice changed and record companies did not accept back unsold units (Strobl and Tucker, 2000). This made the retailers to tighten up their choices and pick up only those that seemed to be more profitable. This encouraged the general focus on few artists, neglecting all those artists that could not have massive sales or that could not justify the cost of the space they occupied in the shelves of the retailers.

Obviously, one of the most prominent features of distribution was its physical character. Sound recordings were being distributed over two major formats; vinyl records and magnetic tape cassettes. After the advent of digitalization another medium was added, that of compact discs (CD), and soon became the most successful (Vogel, 2007). However, as technology has progressed, another medium has made its appearance, the MP3 format. This medium has none of the physical features that the previous three had. The other three mediums occupied significant storage room in the retailing stores and there was also scarcity in terms of shelf space (Anderson, 2006). Not everything could be available even in the biggest retailing store since its space had limits. In addition, since expanding a physical building is certainly costly, retailers had to choose wisely their titles and focus only in some target groups otherwise they would not survive. In few words, even the biggest retailer could not satisfy all (Anderson, 2006). Moreover, these first three formats had also the risk of breaking during transportation, which incurred some extra costs to the producers. In the majority of the cases, based to contractual agreements, these costs were covered by artists and not by the record companies (Fisher III, 2004). Naturally, retailers and distributors had their share on the price of any music content medium they sold; a share which is not at all negligible. It is estimated that the retail store takes about the 40% of the retail price and also 8% from this price goes to the distributors²⁹ (Fisher III. 2004). Almost, 50% of the retail price goes anywhere else but to the creators of the sound recordings³⁰, i.e. the artists and the record companies who actually pay for these recordings before any sales have been realized.

²⁹ In contrast to Peitz and Waelbroeck (2005), the retail price that Fisher III (2004) cites is US\$ 18. Nevertheless, there are no indications for the corresponding percentages in Europe to be dramatically different than in U.S.

³⁰ However, it is quite often that the distributors are a subsidiary company of a major record label.

Note that this high percentage that retailing stores charge is highly depended on the risks that these agents face. The risk is choosing the wrong titles that will not justify the costs of having them in the limited-capacity shelves that these stores have. So, as this industry evolved through time, the contractual agreements between these different interest parties have been shaped from the nature and the risks involved in recorded music production and the bargaining power that each interest group had.

3.3.4 Marketing and Promotion Costs

The most prevalent ways to promote an album or a single was, and still is, through radio airplay, a television video clip, and the participation of this music in a movie. In more general terms, the more media exposure that the album or the artist has, the more likely it is to have significant sales (Wikström, 2006). However, these methods are highly expensive. According to Peitz and Waelbroeck (2005), these costs account for another 30% of the retail price. RIAA³¹ considers promotion and marketing costs as being “*perhaps the most expensive part of the music business today*” (Peitz and Waelbroeck, 2005: 361).

People in the industry quickly realized that radio airplay is one of the first things that has a huge promotional effect. According to Tschmuck (2006), many radio DJs’ had the ability to boost the sales of every recording that they were broadcasting on their shows. According to Edison Media Research in June 2003, 75% of US consumers that purchased a CD were influenced by radio. Far next to this list were recommendations or discussions with friends or relatives with 46% (Peitz and Waelbroeck, 2006). So, this prominent role of radio led to the famous ‘payola’ scandal. ‘Payola’ is a term that combines the words pay and victrola³². This means that radio Djs or program managers in radio stations were bribed in order to include some specific songs in their playlist. This started as a usual method that many small independent record labels employed in order to gain airplay for their songs. Soon after that majors adopted this practice as well. However, payola finally became illegal around the 1960’s (Tschmuck, 2006; Boehlert, 2001). But, since radio airplay had already proved its significance for boosting sales or introducing new acts, record companies did not abandon this practice completely. Since record labels could not

³¹ Record Industry Association of America (RIAA).

³² Victrola was the name of the first widely recognized brand for sound recordings.

offer money directly to any radio producer or DJ, it was some intermediaries that handled this task called ‘independent promoters’ (Tschmuck, 2006; Boehlert, 2001). These ‘indies’ became an important part of this industry. They could make or break careers (Boehlert, 2001). This system ended up costing to record label the noteworthy amount of US\$ 150 million³³ (Boehlert, 2005). Nowadays, things are not the same but not so different either. According to Ahlkvist and Faulkner (2002), radio stations are now paying more attention to their audience. Their main source of income, which is derived from advertisements, depends on the size of that audience. Yet, there are still radio stations that keep strong attachments with record labels. In general though, the relationship between the record and radio industry has been characterized more suitable as elusively symbiotic. According to Liebowitz (2004), radio stations have no obligations to the copyright owners of these sound recordings because they increase their sales rates. On the other hand, a radio station without any music content would not attract so many listeners. So, the balance between paying and not paying for the right to broadcast sound recordings has resulted the abovementioned trade off between this two industries. However, Liebowitz (2004) also suggests that there are indications that radio broadcasts do not enhance sales of sound recordings, so perhaps there has to be reconsideration for this balancing of interests.

Digitalization and the technologies used together with the internet³⁴ have opened a new way for music to reach an audience. Through internet radio stations or music streaming and downloading, music is something that travels fast over the internet. Nowadays it is very easy for someone that has access to the necessary technology to listen virtually to every song ever existed and offered by the record industry³⁵. This applies also for the most recent releases. Yet, the record industry has been reluctant to endorse these activities since illegal file-sharing poses a great threat to its interests (Liebowitz, 2006; Wikström, 2006). However, now it is becoming more accustomed for major record labels to release their catalogues to music services provided over the internet such as Last.fm or Rhapsody. In addition, with the internet it has been possible for agents to offer huge amount of music files since the costs of storing an extra unit is close to zero. This has resulted to a massive collection of different music genres offered to consumers (Anderson, 2006). Former promotional

³³ This amount refers to US\$ in 2005.

³⁴ These technologies are mainly compression of digitalized data, streaming, and downloading.

³⁵ This applies at least for the last thirty or so years.

tools such as radio airplay and video clips did not have the ability to offer such a vast amount of choices, so they are concentrated only in few acts. New ways have been developed such as suggestions from other listeners, automatic compilation of play-lists according to genre or a special music taste. Even if these means are still far from perfect, they surely are the first steps towards another way of introducing and promoting an artist. Examples of these new techniques of promotion are the music part of the site 'myspace.com' or the free download of Radiohead's new album for a short period of time from their site before it was officially released in stores. The main problem for this kind of activities is the issue of piracy. By having songs in a digitalized form it is even easier for someone to illegally copy it and re-distribute it freely. Record companies were of the opinion that some kind of protection should exist. Thus, some digital rights management techniques were developed (DRM). These processes embedded in the songs' digitalized format restricted users from certain functions. One of them was copying the songs more than a specified number. However, nowadays record labels have abandoned this logic and provide their catalogues in a DRM-free format. Nevertheless, piracy still remains a major issue for many markets of sound recordings. Interestingly, in some countries web piracy is not the only problem. In Greece, there is a piracy rate above 50% for physical sales (IFPI, 2007). Since current record labels depend heavily on the proper appliance of the copyright law for sound recordings to realize the major source of income, they believe that piracy reduces sales and do not encourages them through sampling (Norbert, 2006).

A very lucid presentation of the possibilities of new technologies is found in Fisher III (2004). He presents a music world without the restrictions of the current copyright legislation or the issue of piracy and with the utilization of the many great possibilities that the internet can provide for music services. He concludes that some of the benefits would make this market much more effective and music will reach consumers in lower price levels.

3.4 The Main Players

In the following section we will see in more detail the main interest groups of this industry and how the costs described above affect the relations between these groups.

3.4.1 Artists in the record industry

The cornerstone of this industry is the artists themselves; musicians, singers, and composers. They are responsible for creating and performing the content of this industry's main products which are recorded songs. Most of the times it is these songs that are being performed live in a concert or broadcasted on radios; a sum of recorded songs makes an album; and these songs are also being illegally downloaded or shared over the internet.

The world seems to be full of individuals that want to engage in this activity, so many scholars (Connolly and Krueger, 2006; MacDonald, 1988; Abbing, 2003) come to the conclusion that there is an oversupply of artists³⁶. Described also as an oligopsony, this plurality of artists allows for record companies to use a selection process and function as gatekeepers. They choose which artists get to reach consumers and which will not. This gatekeeping process certainly adds to the highly skewed distribution of incomes observed in this industry (Caves, 2000). The fact that “*relatively small number of people earn enormous amount of money and dominate the activities in which they engage*” (Rosen, 1981:845) has been widely accepted as the superstar phenomenon. This is a prominent feature of the artists' labour market of this industry as well. However, this ‘bottleneck phenomenon’ feature has broken loose since many artists took advantage of the benefits offered from new technologies of distribution and promotion (Anderson, 2006). But what is the relation between artists and the aforementioned costs? Well, a simple answer states that these costs account for the money that an artist has to spend in order to enter this market. In terms of industrial organization, these are the entry barriers for someone to enter the market of sound recordings.

The importance of sound recordings for the artists is great since it is the most common way to create demand over their performances and music creations. As we saw earlier, the cost of producing only the first copy of an artists' creation is considerable. However, mainly due to the ‘nobody knows’ property³⁷, banks are not

³⁶ The majority of these scholars have made researches in artists' labour markets in general. However, there are no indications that restrict any use of these findings to artists' labour market for the record industry as well.

³⁷ This property refers to the fact that since music is an experience good nobody knows, from the producers' side, which product will sell and which will not. For more see Appendix A.

so interested in loaning money to artists. So, the financing needs are covered by other institutions, namely the record labels. These companies give loans to artists to record their work in exchange of the ownership of the copyrights of these sound recordings. This loan is often labelled as an advance payment. Production costs are covered by this advance payment. Thus, any significant decrease in these costs will probably influence the size of the advance payment needed. But is there any significance in this? In order to assess this situation and provide an adequate answer it is useful to take an overview of artists' income sources. In theory, artists have income from three major sources. One is live performances; the other comes from sales of their sound recordings, in a form of royalties; and third is through the publishing of their creations. However, there are strong indications that the only significant source of income is the first one (Connolly and Krueger, 2006; Fisher III, 2004). What poses an interest for this thesis is why artists earn so little money, if any, from their sound recordings? Perhaps, the loan that they have to pay back to the record companies, i.e. the advance payment, is one of the main reasons why artists do not earn money from sound recordings. The other major reasons are the costs of promotion and marketing. In few words, artists contract with the record labels for two major reasons. First is to finance the 'fixing' of their creations in a tangible form; and second is to be able to 'monetize' their creations. The latter means that artists cut a deal with a record label also to grant the right to use the structure and the resources available from the record label to commercially exploit his/her creative ideas. To make these points clearer we have to discuss some contractual details between artists and the record labels. These companies loan money to artists. Then they recoup this investment mainly through revenues from selling copies of sound recordings. According to the most common contractual agreements, artists are usually given around 10-15% of the revenues generated by record sales³⁸. Without the business network that has developed over time of record labels, distributors, retailing stores and others, artists would probably have greater difficulty in earning money from sound recordings. So, these contractual agreements may seem fair but it is not the end of the line. First of all, before any money reach the artist the record company has to fully recoup all the money it has already given as an advance payment to him/her. Next, some deductions come into play. The producer of the recording takes a 3%. Then, the artist pays from his/her

³⁸ This varies according to the state of the artist. If it is a new artist this rate could be low as 9%. If s/he is a 'superstar' it could go as high as 20%.

share a percentage up to 25% for covering the 'packaging' costs. Another 15% is deducted to cover sound recordings that were distributed free for promotional use; breakage costs and some other things continue the list of reasons for deduction from artists' share. On top of all that, half of the money paid to 'independent promoters' and to produce a music video is deducted in a similar way from artists' share. The most common outcome, especially for new acts that did not sell well, was that artists did not receive any kind of payment from their sound recordings. Instead, most of the times they ended up owing money back to the record label (Fisher III, 2004).

Until recently, if an artist wanted to try and make a living out of his/her music talent, s/he did not have any other choice than to ask for a similar kind of deal with a record company. And this was done mainly through two routes. Firstly, they managed to gather some money and record a decent 'demonstration' tape called 'demo' and then send it to a record company hoping for an offer. The other way was to be picked up by a talent scout and be introduced to a record company by this middleman. In both ways, if a deal was agreed, things would probably go this way. A similar to the above contract was signed probably for many years and at least three album deliveries. If artists managed to create demand over their music products³⁹ then they would probably start making a living from their musical talent. However, these initial contractual agreements troubled some artists that have been quite successful, like Prince or Madonna, for many years. Only recently Madonna managed to buy out her contract, that is repay her debts to her record company, so that she will be free from them and negotiate a new contract deal with another company, one from the industry of live performances, Live Nation (Billboard, 2008).

Nevertheless, these were the contractual agreements common to the record industry for many years so nothing could really change this situation. It was based on the bargaining power that artists had against the record labels. The only available option for anyone who would like to try to live out of his/her music talent was to go through these companies and struck a deal; it turned out to be that the bigger the label was, the more successful the artist was considered to be. Thus, until very recently very few, if any, artists considered to make a career without a deal with a record label.

3.4.2 The Record Companies

³⁹ These are either sound recordings or live performances.

Throughout this thesis there have been several references to these companies⁴⁰. Here, they will be examined in more detail. This section is mainly focused in the major record companies since their products compose nearly the 75% of the world market. A very prominent feature is their role as ‘gatekeepers’. As mentioned earlier, they get to decide whether an artist will be given the chance to reach consumers and create his/her audience. However, their criteria are not strictly confined to any specific set of aesthetics. From an artistic perspective they are pretty much open-minded. There is only one condition that any prospective artist must fulfil. His/her artistic ideas, or personality, must yield for a significant probable market value; current or to the near future. This means that this artist would seem like a good investment deal. Perhaps few more words are required to make this point clearer. Apart from their initial reluctance in the 1950’s to invest in upcoming rock’ n’ roll acts and certain genres such as ‘black’ music, the record companies have not rejected any other genre, be that heavy metal, thrash, or punk. The only premise was that they had already created fuzz around them. And fuzz in the music industry equals attention from consumers and probably some significant market value. As we have seen from the second chapter the spotting of seemingly successful new acts is the task of smaller independent record labels or independent producers. Usually, after a new act has gained certain recognition, an investment is less risky so majors offer some money and buy out the contract of this artist from the independent label, or make some other kind of agreement. Often these deals regard issues of global distribution and greater promotion (Tschmuck, 2006). However, this method implies that these major do not perform any special innovative role in this industry. Smaller independent labels carry out this difficult task. On the other hand, in a capitalistic market the combination of big firms that can exploit the benefits provided from economies of scale and scope in production, together with smaller innovative firms, seems to be the best recipe for economic growth (Baumol, 2007). We have no obvious reasons to reject the hypothesis that the same goes for the market of sound recordings as well. Here, majors play the role of big firms and small independent companies play the innovative part. It could be that the great economic growth that this industry experienced the last 50 years of the previous century was caused by this abovementioned combination.

⁴⁰ As the reader may have noticed before, the terms ‘company’ and ‘label’ are used interchangeably.

However, if we measure growth only in economic terms, i.e. sales' volume, then it is possible to overlook the fact that this is a cultural industry and cultural diversity is something desirable. Surely, an evaluation of this industry in terms of cultural diversity is probably an issue for another master thesis and the reference to this matter made in chapter two was only to introduce some aspects. Although, some indications do exist and these major record labels are not so concerned about developing artists for niche markets (Boehlert, 2005; Anderson, 2006). In addition, the nature of public ownership with their stocks being exchanged in the worlds' biggest stock markets (Burnett, 1996; Wikström, 2006) encourages the view that their main aim was to satisfy their shareholders. Thus, finding something that would sell to as many people as possible would logically yield more profits. So, this is probably preferable than selling to niche markets where the profit margin is lower.

An overview of their main tasks include providing the funds for producing the first copy of an artists creation; its mass production and manufacture; their distribution; and finally the promotion of the artists' recordings. Their role has been crucial over the development of this industry since it was these companies, or the individuals behind these firms, that provided the money for the creation of the goods and services that this industry offered to the consumers. This is not an easy thing to do, since large amounts of money are in stake and the outcome is not very predictable. Approximately, only 10% of new acts manage to be profitable and also make up for the rest of the acts that did not cover their production and promotion costs (Vogel, 2007). Under this harsh financial environment, record companies have managed to find some ways to bring some sense of security in their investments (Wikström, 2006). Their effort to significantly diversify their portfolio is a way to spread the risk. Another way is their tactic to focus their main promotional efforts to relatively few acts (Vogel, 2007). This has been also partly responsible for the high skewness in the distribution of incomes that has been observed in the record industry (Caves, 2000). Given that only few artists get a relatively huge media exposure over radio or television, great demand for their products, i.e. sound recordings and live performances, is created as well. So, in spite the fact that there is a high rate of turnover in the industry, if recognition and success come, they are in significant levels. Thus, this market resembles one in which the winner takes it all.

Another important characteristic of the function of these companies is their heavy reliance on the benefits derived from the current copyright legislation. Its

proper appliance insures their major income source, which is no other from sales of sound recordings. The recuperation of their huge amounts of investment on the production and the promotion of sound recordings is highly dependent on the enforcement of the legislation of intellectual property rights. Thus, the issue of piracy has created great concerns and it is logical that these companies lobby for strengthening the copyright legislation since it is mainly these companies that benefit from it and not creators (Towse, 2008; Ku, 2001). It is this business model that is being questioned with the advent of new technologies of distribution, promotion, and music production. This has also brought to the surface some conflicting interests as well. Since artists did not count on income from sound recordings to make their living, they were not so up against this extra promotion that the internet seemed to offered them as well as the more direct relation that they could establish with their fans. In fact some bands, like Marillion, Radiohead, Nine Inch Nails, and Coldplay have already started to explore these new potentials. However, for these companies and in relation to the abovementioned cost, a significant decrease in these costs would enable them either to diversify more their repertoire to spread the risks even more, or to keep the same repertoire in a lower level of investment. But this requires one premise: there is no piracy, or at least in significant levels.

3.4.3. Consumers

The reason why there is a US\$130 billion industry for music is because people are willing to pay for these products. Consequently, the US\$ 21 billion record industry has its share. Consumers put some value over the product of this industry, which is recorded music. We can say that this value is mainly expressed by the amount of money people spend on this good, providing by this way, an observed market value for these products. The more they value these products the more they spent on them (Caves, 2000). However, despite the fact that the market value of music, which is no more than the aggregation of the value of each and every single unit of recorded song or album can be something observable, the marginal value of each of these units is not so easily recognizable, at least “ex ante”. Like almost every other cultural product, music is an experience good, which means that people can adequately value it only after they have experienced it. This lack of ex ante valuation, and thus its difficulty to be observed, hardens the way of making business in this industry. This actually leads

to the very well known “nobody knows” property (Caves, 2000). It is under this perspective that investments in artists and their creations are a highly risky procedure, since the money needed for the production of these products are not insignificant amounts as well.

Three major factors shape the behavior of consumers and all of these are related to signals that help them choose which product to purchase and consume. The first one is previous experiences. If an artist has an established fan base then these people based on previous consumption experience they will most likely buy any new work by this artist. The second factor refers to actually hearing the sound recording before purchase it. A key element here is media exposure. The more airplay it has on radio or promotion through video clips and other media, almost certainly its sales will be boosted (Tschmuck, 2006; Wikström, 2006). This can be also called sampling. Consumers sample through radio or other media which songs or albums they value enough so they will go ahead and purchase it. The third factor is discussions and recommendations with friends and relatives. According to Peitz and Waelbroeck (2005), this is the second thing that influences people’s purchase of CDs⁴¹. One more aspect of consumption seems to influence the skewed distribution of artists’ incomes in this industry. Information is crucial when it comes to consumption in this industry. Thus, the cost of acquiring this information is critical as well. According to Adler (1997), for consumers “stardom” is a device for minimizing these search costs. Moreover, the superstar phenomenon is closely related to patterns of consumption. Snowballing and bandwagon effects explain a lot about the ranking between artists (Rosen 1981; Adler, 2006). A new element in the system of consumption that was brought by the advent of digitalization, the internet and other technologies is the degree of interactivity that consumers prefer to have in order to satisfy their music tastes (Kretschmer et al., 2001).

However, consumers choose from the variety of products offered to them. But what is offered to them is, among others, a function of production costs. In other words, it is only what makes it through the gates. New technologies have allowed for more products to reach the market. One of these technologies is referring to the democratization of the production tools. This is mainly due to cheaper means of production (Anderson, 2006), and to the fact that software applications have made

⁴¹ As it was mentioned earlier in this chapter, the first one is radio.

easier the access and use of methods and techniques employed in this processes (Fisher III, 2004).

3.5. Conclusion

The aim of this chapter was to present the environment within which the record industry functions, and hopefully, this task has been accomplished. Moreover, this chapter is meant to sketch the positioning of the cost of expression in the on-going environment of the record industry and the relations that can be affected due to a change in them.

So, an interesting point made in this chapter is that the contractual agreements between artists and record label are highly influenced by the amount of money needed to cover the production costs. Especially new artists were until recently in a relatively vulnerable situation since there was no other way to produce the sound recordings needed for the promotion of their careers apart from cutting a deal with a record label. Nowadays it seems that this has changed in favour of the artists that wish to fix their creations in a tangible form by providing to them more options that can aid their careers.

Moreover, we saw that artists seek to contract with record labels for financing and ‘monetizing’ their creations while record labels see artists as a ‘pool’ of possible profitable investments and as creative inputs for their productive procedure. Finally, consumption is influenced by the information and the cost of information over the different products offered. Consumers choose from what it is available to them and their behavior is partly related to how much time and effort they can spent on collecting and processing information.

Thus, if a change in the cost of expression turns out to be significant it will affect the structure of the record industry by changing the relations among the interest parties as mentioned above and more precisely between the artists, especially new ones, and the record labels.

Chapter 4

Research Part I

4.1 Research part I

The empirical part of this thesis is comprised of this and the following chapter. In these two chapters I have tried to provide some indications whether the seeming decrease of digitalization in the cost of expression can be regarded as quantitatively or qualitatively significant. In doing this, I looked firstly how the evolution of digital equipment has changed the standard requirements of analogue equipment in the procedure of making recordings. So, the underlying question here was whether it is now possible to replace the previous analogue recording equipment with its digitalized virtual mode by using software application. Consequently, I collected the relative prices of quite similar analogue and digital equipment in order to see some examples of a cost decrease. Here, I was looking for a specific element that would reinforce the sense that digitalization has brought with it a significant cost decrease. What I was looking for to spot in these examples is that this software application is cheaper than the corresponding group of analogue equipment. Thus, this chapter deals with the issue of whether digitalization has brought cheaper means of production.

4.2 The Recording Equipment

With the advent of digitalization some things have changed and some others have not. But in order to understand better what has happened it seems suitable to explain further more the recording method applied in sound recordings.

The method that almost all of the great Rock' n' Roll hits were recorded was the following: the performer was playing his/her part and the outcome was being captured by a microphone and recorded on a multi-track tape recorder. Every guitar player, or singer, or drummer had his/her own separate track(s) on the recording. When everyone had recorded their part the process of 'mixing' started. There any special effects or sound quality improvements were added and the outcome was finally mixed down into a two-channel stereo mix. The signal of this final mix was then played-back in order for another recorder, the stereo mastering recorder, to catch this signal. This final recording of the mixed signal was being used after as the prototype for the reproduction of the sound recordings.

Therefore, as far as it concerns the equipment used in recordings we can distinguish five major categories. The first one is related to the creation of sound and

we find here all music instruments, their amplifiers, and all their accessories. The second category refers to the act of capturing the sound. The main components of this group are the different kind of microphones, i.e. for voice, for music instruments, for drum sets. The third one is for the recording of the captured sounds. Under this classification we can find things such as the magnetic tape recorder, the multi-track recorder, and the stereo mastering recorder. Fourth is the category that contains all these hardware related to sound quality improving techniques, such as equalizers, and special effects such as reverb, gain, and many others. Last but not least is the category that includes the hardware that performs the crucial and important task of connecting all these aforementioned categories together. The most prominent part of this hardware is the mixing console. A mixing console is a big box of cables, electric circuits and chips, switchers and small lights. It is also the first stage of having many separate tracks. Each track occupies a different channel in the mixing console. Thus, depending on how many different tracks we want to mix and process, there is a variety of mixing consoles with more or less channels. They range from 4-channel consoles up to 64-channel consoles. We should note here that this applies surely for analogue mixing consoles, the main technology before the advent of digitalization⁴². The main use of a mixing console is shown on the following diagram:

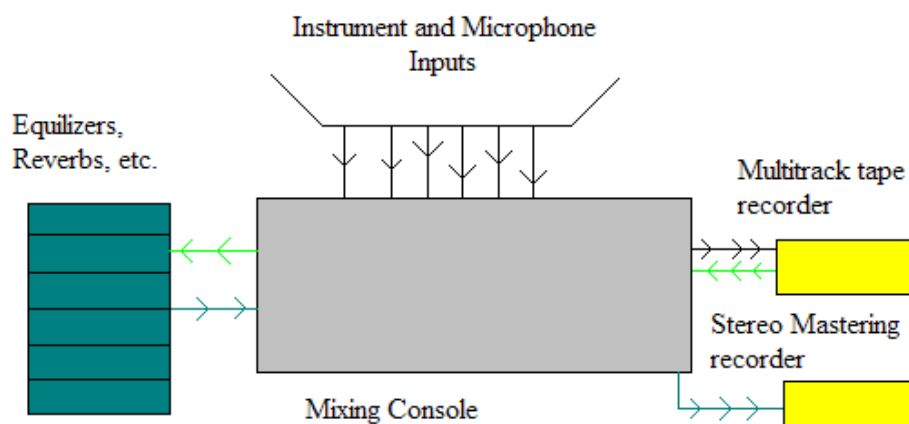


Diagram of Multi-track recording technique
(source: Watkinson, 1998)

⁴² As we will see later on, digital mixing consoles can go as far as 128 channels or even more, in a virtual mode.

As it is depicted above, all the microphones are connected to the console. Also, the different recorders and the hardware for quality improving and special effects are also connected (Watkinson, 1998). So, the signal captured from the microphones comes in the console and then goes out to the multi-track recorder. Then the same signal returns to the console in order to be edited or be sent to the hardware at the left of the diagram where it is processed in order for its quality to be improved or to add some of the special effects mentioned earlier. This already processed signal is returned to the mixing console to be mixed down in a two-channel stereo mix, and then be sent to the proper recorder. Hence, a mixing console is a valuable part of the sound recording process.

Now that the equipment needed for a sound recording has been presented adequately, we should continue by looking on how digitalization has changed some components of these categories.

4.2 Recording Equipment and Digitalization

Since the beginning of the implementation of digitalization in the recording procedure many things, in terms of hardware, have changed but the actual method of recording has remained principally the same. Still, performers can, and many times will, perform their part alone and then when all the parts have been recorded the same procedure will continue as it was described in the previous section. What has changed is related to the nature of the components of the abovementioned categories. The main technological difference between previous recordings and present possibilities is the use of a virtual digitalized environment. After the nature of the signal has been transformed from analogue to series of digits of 0 and 1, then almost anything can become also incorporated in software and projected on a PC screen.

In more detail, in relation to the first category, digitalization did not altered significantly the way sound is created. We still need guitars, bass guitars, synthesizers, drums sets a human voices to have some sounds created. Yet, the MIDI technologies have contributed a lot to the increase of the productivity of composers, artists and music producers (Vogel, 2007). In addition, it is interesting how this is changing by the advent of computer software that offers many virtual instruments. A small exploration of the catalogue that the magazine Music Tech provides from

software reviews gives a small image of this trend⁴³. Almost every musical instrument, or even voices, can be available now in a virtual mode.

The second category of recording equipment, which is that of microphones, has been developed further by digitalization. Their ability to capture sound of greater quality has been improved.

The third and fourth category are probably the ones affected the most. As we saw earlier, with the introduction of DAT almost every recorder has changed from being an analogue magnetic one to digital. Now the task of storing these kinds of data is being fulfilled by hard disk spaces used for general purposes as well. In addition, almost all previous analogue hardware of special effects or for improving the sound quality of the recorded material have become available on a digital mode or even, as a part of a software, in a virtual reality mode.

The last category and more specifically, analogue mixing consoles have also changed a lot by the advent of digitalization. They have too become available on a digital mode and similarly to the equipment on the fourth category they are also offered in a virtual mode. It seems that the last trend in this category is the 'digital interface'. This is a digital hardware console that can be connected straight to PCs via a USB cable and control the virtual console of software. The benefit of that is a combination of the easiness of controlling a physical console and manipulating different tracks with the possibilities that software can provide⁴⁴.

4.3 Research Design

As it has happened once before with the introduction of magnetic tape recording equipment, new and cheaper tools for creating the first copy of a song affect greatly the size of production costs (Tschmuck, 2006). It seems that digitalization has brought cheaper means of production as well (Peitz and Waelbroeck, 2005; Kretschmer et al., 2001). So, it should be possible to find indications suggesting a decrease in these costs after the advent of digitalization in the recording process. It would be then useful to put a starting point of time of digitalization. This is the mid 1980s', when the technologies of MIDI and DAT were firstly introduced in the recording process (Vogel, 2007; Fisher III, 2004). Thus, by the beginning or the mid

⁴³ www.musictechmag.co.uk

⁴⁴ This is further explained in the appendix B where the Cubase software is presented in detail.

1990s' any influence of digital equipment on analogue recording equipment could be obvious and by now it should have become even more apparent. Apart from the qualitative feature of changing from analogue to digital mode, the recording equipment of the previous technology, i.e. analogue, should have become also cheaper. That is of course, if we consider digital and analogue equipment to be strong substitutes and the price of the former to be increasing while the price of the latter to be diminishing. Watkinson (1998: 301) points to that substitute effect as well by stating “[t]oday analog recording is somewhat in retreat owing to the progress made in the digital domain”. Despite the fact that this book was written ten years ago, we can almost be sure of the fact that now this ‘retreat’ of the analogue equipment should be even more prominent.

Therefore, the initial plan for a research on the effect of digitalization on the costs of expression was first, to create a basket with representative parts of all the equipment categories that are described in the previous chapter. Each of the five categories should provide a specific gear to be in this basket and thus create an index of recording equipment. There should be created two baskets of this kind, one for analogue equipment and the other for digital equipment. Then, I would gather the prices of these two indexes for as many years back I could. The prices would be provided by magazines specified in sound and music production. This should, in theory, provide me with a very clear image of how the costs of these different pieces of equipment have behaved through time and whether there is a trend or not. It should also allow for some analysis on the in-between relations of these two baskets.

Unfortunately, there were two major problems that prevented me from realizing this research plan fully. The first one was time. Due to time limitations I could not collect all the data needed for this research design. Thus, there were some compromises that had to be made. So, instead of collecting data for all five categories of the equipment, one of them was chosen. The group of recording gear that became my target was the fifth. This includes the hardware that is used to successfully connect and synchronize all the other categories. Its representative tool was the mixing console mainly because of its great importance in the recording procedure. Another reason for choosing the mixing console as my principal target was the nature of the second major problem that restricted me from accomplishing my intended research plan. A fact apparent almost from the beginning of the collection of data was their great complexity in terms of finding decent and knowledgeable sequence of a

specific set of data. Gears from the first four categories were far more complex in this abovementioned way than it was for the last one. Thus, the relatively easier task for finding subsequent data for the fifth category helped to establish the focus of my research in this category. My aim was to gather information on both analogue mixing consoles and digital ones. Of course, when updates, changes, and/or different models were introduced I tried to keep a clear and comprehensible sequence of the products.

4.4 Data Collection and Analysis

The collection of data was made in two sessions. The first one was between 16 and 21 of May and the second between 4 and 11 of June, in British Library, London. In order to collect my data I recognized the most well known magazines of the sound and music recording field; I found three main sources of data. The first one, from which almost all of my data were collected, was the '*Sound on Sound*' magazine. I looked for prices in its back issues and in their website 'www.soundonsound.com' as well as from their reviews on products. This magazine goes back as far as the ending months of 1985 and it is one of the oldest, if not the oldest one still in publication. It publishes monthly issues. The second magazine was '*Music Tech*' which dates from 2003 and publishes monthly issues as well. For this one I looked for back issues and in its website 'www.musictechmag.co.uk' as well. My third main source, mostly for qualitative data, was the internet and websites of some on-line magazines for sound production such as '<http://mixonline.com>', '<http://emusician.com>', and others. The majority of the magazines used for my data sources, are orientated towards the English market⁴⁵. That is also why my prices are in UK pounds (£).

I divided the year in four subgroups, similar to the grouping made by the OECD for the CPI indexes and for quarterly estimations. There and in my thesis these four groups are January to March, April to June, July to September, and October to December. I looked for prices for each one of the subgroups from reviews or advertisements on the magazines. I always started from the first month of each subgroup and if I could not collect the necessary data from that issue I progressed to the next monthly issue of the same subgroup.

⁴⁵ England is one of the countries with long tradition of producing creative products for the record industry and supplying music markets worldwide. Thus, it is a good case to be studied.

At the beginning I started collecting prices from many different trademarks such as Mackie, Behringer, Yamaha, Fostex, Tascam, and DigiDesign. However, it soon became evident that it was not possible to keep track of all these different brands so I focused my attention at only three of them. Those were two analogue mixing consoles, from Mackie and Behringer, and one representative product from the digital technology, the software series of Cubase by Steinberg. It is also a sign of how from 'analogue' technology we have now passed to 'digital' and progressing to a 'virtual' technology. The method employed was by riffling through the magazines and spotting prices from reviews and advertisements. There were many different ads from several stores such as 'The Solution Company' (TSC), 'Turnkey', 'DreamTek', 'Millennium', 'Digital Village', 'Anderton's Music', 'Gear for Music', 'Eddie Moore Music', and 'GAK.CO.UK'. There were many different sources for the same kind of equipment and most of the times they offered different prices. However, in most of the cases the prices did not differ significantly. In order to avoid picking up extreme low-price offers, perhaps mostly attributed to market competition strategies, I usually tried to collect the highest price from what I could find.

In an environment of rapid change there were many new models and slightly different versions of existing ones. In order to obtain a decent and logical sequence of data I looked only for serious and linear upgrades on the specific models used in my focus group. For securing this process, before a model could be changed in my data I was looking for phrases in the ads such as 'the successor of...', 'the evolution of...', or similar phrases and descriptions in reviews about this specific model.

Finally, whenever I could not find the prices needed for the necessary period of time from the first magazine I would start looking on the second magazine as well. This practice was also used sometimes to crosscheck prices that looked extremely cheaper than in the previous period of time. However, this practice was employed only in few occasions and in most of the times the data were collected from the back issues of the '*Sound on Sound*' magazine. In closing this section, despite the fact that some issues of this magazine were available from the December of 1985, it was not possible to gather a coherent time series of prices for my data sets before the second quarter of 1992 and after the second quarter of 2008. Thus, some of the longest series in my data account for nearly the last 17 years while others, unfortunately, for less.

For the analysis of these data sets, a simple set of descriptive statistics was employed. The first step towards analyzing the data⁴⁶ was to put them in a graph and try to observe any obvious trends. Then the first differences were established⁴⁷ in order to obtain a clearer image of the monthly differences in prices. The subsequent step was to create a percentage image of the first differences. This was made in order to have a common reference base for all the different data set, i.e. different variables. Whenever a trend was detected from the graphs for a certain time period then the means of these different periods were obtained together with the monthly sum of differences for the same period and its percentage expression in order to analyse more the observed fact⁴⁸.

4.5 Research part I: Findings

In the following graph we see all the necessary equipment for a sound recording under the current method of multi-track recording.

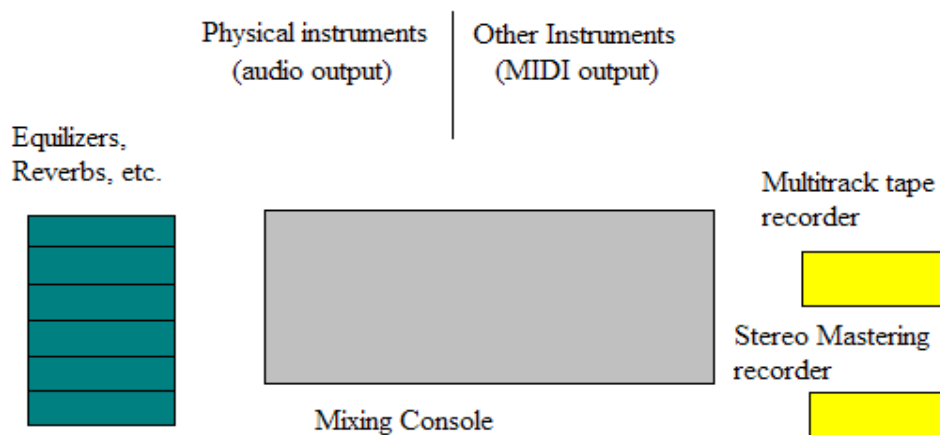


Diagram of Multi-track recording technique
(source: Watkinson, 1998)

This graph is the same with the one in section 4.2, only without the sound routes. As this research suggests, the first version of Cubase was built to mimic the

⁴⁶ The adjustment for inflation has been done before this stage and for this reason it is not mentioned here.

⁴⁷ First difference is a difference between two subsequent data observations. If we denote 'Y_x' as an observation on the 'x' time spot, then a first difference is: Y_x - Y_{x-1}.

⁴⁸ For more details see Appendix B.

operations of a 64-track tape recorder, but only for MIDI data, not for audio sound. Thus in the next graph, inside the dash line we have a depiction of what was included in the first Cubase version:

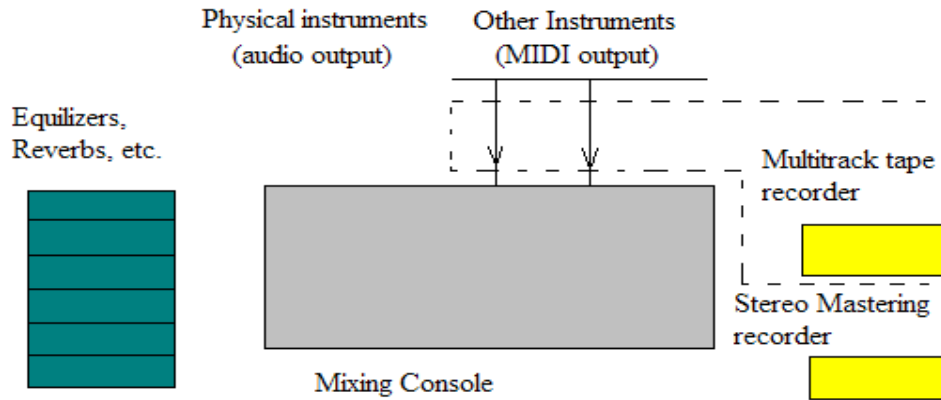


Diagram of Multi-track recording technique
(source: Watkinson, 1998)

The first upgrade of this computer software was the 1.5 version and the major addition was that it included the operations of a multi-track mixing console as well as an automated function of mixdown. This upgrade is depicted inside the dashed line of the following graph:

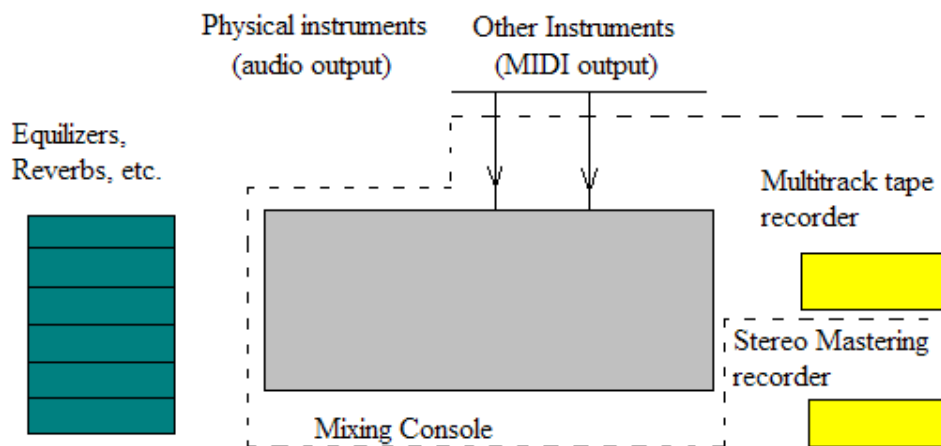


Diagram of Multi-track recording technique
(source: Watkinson, 1998)

The next big breakthrough was done in 1996 with the virtual studio technology (VST) version of Cubase, first in the Mac technology and then in the PC technology. The changes are shown in the next graph:

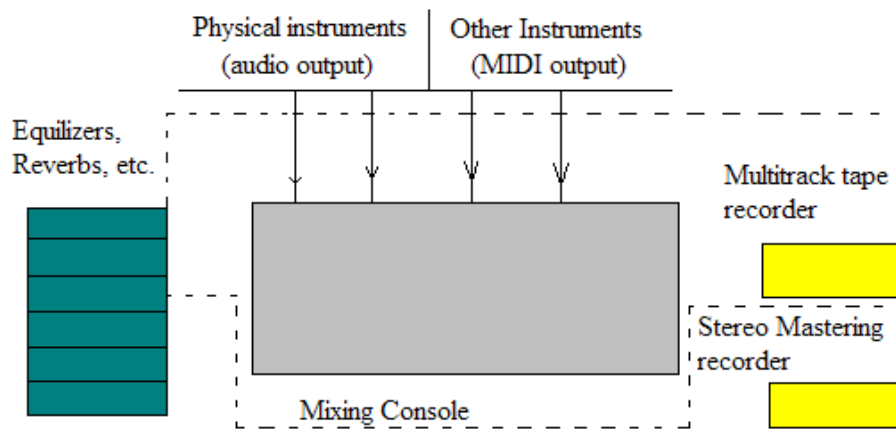


Diagram of Multi-track recording technique
(source: Watkinson, 1998)

As depicted above, it became possible for the first time to manipulate and process midi and audio data as well. In addition, a parametric equalizer was included for improving the sound quality of the recordings and four special effects.

The main aim of the subsequent upgrades was to improve the sound quality of the software's output and to include a virtual mode of the other existing quality improving tools and special effects. Also, the number of tracks available in the virtual console increased from 32 digital tracks in 1996 to 96 tracks in 1998. Nowadays, the latest version of Cubase, version 4, has become a complete tool for music production that includes all the aspects of a multi-track recording technique in a virtual mode. The following table (4.1) summarizes these findings:

Software Versions	Equipment Categories				Sound Format		Functions			
	Recorder	Console (tracks)			Quality and Effects	Audio	Midi	Edit and Access	Mixing	Mastering
		<32	32	96						
v.1	V	X	X	X	X	X	V	V	X	X
v.1.5	V	V	X	X	X	X	V	V	V	X
v.2	V	V	X	X	X	X	V	V	V	X
v.VST	V	V	X	X	V	V	V	V	V	X
v.VST 32 5	V	-	-	V	V	V	V	V	V	X
SX series	V	-	-	V	V	V	V	V	V	V
v.4	V	-	-	V	V	V	V	V	V	V

Thus, there are strong indications in the data that this software application has made possible the substitution of hardware equipment. As shown in the table, from the versions of Cubase SX and on, the software application has managed to include the entire range of activities required for sound recording. These are from recording and editing in the first version to mixing and mastering in the last version 4.

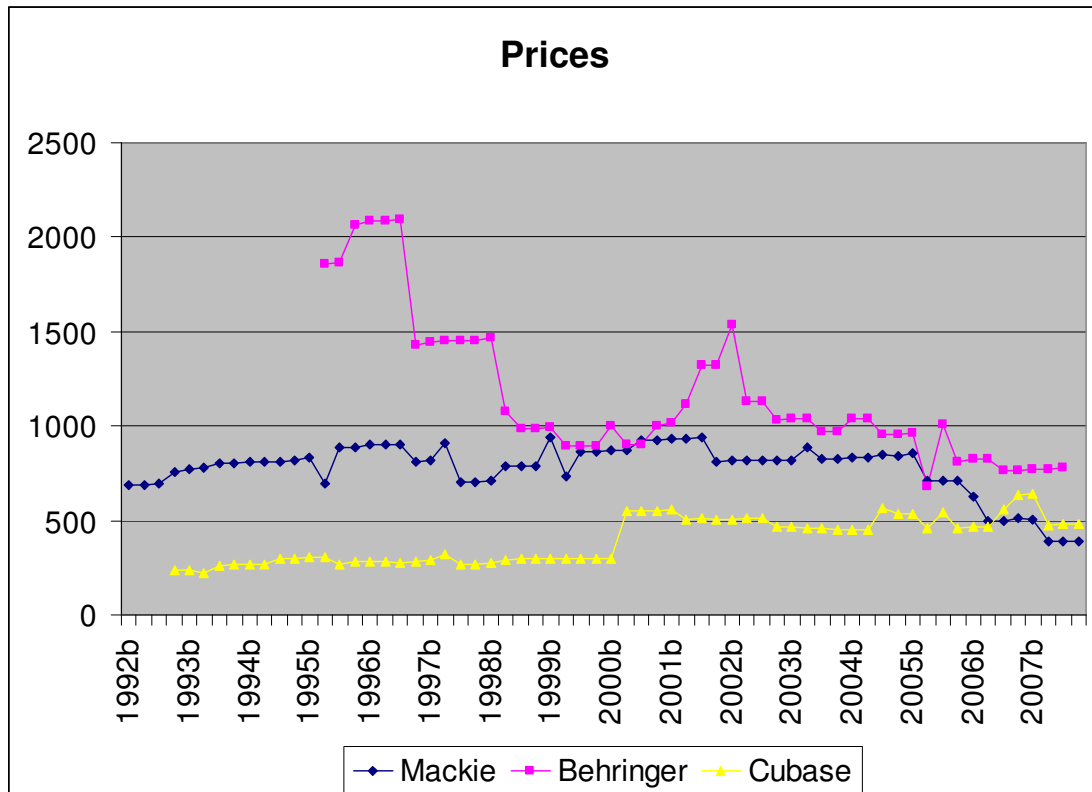
Moreover, earlier in this chapter there were drawn five equipment categories necessary to represent the majority of the required tools for sound production. The next table (4.2) reveals which and how many of these categories can be included in the virtual equipments offered by software applications:

Equipment Categories	Yes	No
1. Sound Creation (ex. Instruments)	–	✓ ⁴⁹
2. Sound Capture (ex. Microphones)	–	✓
3. Recording of Sound (ex. Recorders)	✓	–
4. Quality and Effects (ex. Equalizers)	✓	–
5. Synchronization (ex. Mixing consoles)	✓	–

So, the data *do* suggest that it is possible to replace the existing equipment from, at least, three out of five categories of gear needed for the sound recording procedure. This has certainly contributed to the fact that the number of required hardware equipment for music productions has been lowered. This information, apart from its obvious space-economizing value, it would probably yield implications in the costs of this equipment as well.

Thus far, we have addressed the first question posed in the beginning of this chapter, which has been also confirmed. The second question was referring to the relevant prices of equipment that the software replaced. A very efficient way to compare these prices is by putting in a graph all of our variables; the two analogue consoles and the Cubase software. This is depicted in the following graph (4):

⁴⁹ Despite the fact that Cubase software does not provide any virtual instruments there is an increasing number of other software applications that offer this possibility and are compatible with Cubase.



The first insight we can draw from this graph is that the price of Cubase has been lower than both of the consoles until the end of 2006 (third quarter). After this time spot its price exceeds that of the 16-track console (Mackie). The price of the other console with 24-tracks (Behringer) is always higher than the price of Cubase. Surely, we cannot say that the software was from the beginning an equivalent product with the other two consoles. At the third quarter of 2000, it appears in our data sample the first version of Cubase with an available console of 96-tracks and with almost⁵⁰ all the features and functions that an analogue console possesses. So, even if we start our comparison after this time-spot, we can see clearly that the price is still under the prices of both analogue consoles. Moreover, in our last available observation of the price of Cubase, we see that its price is UK£ 483 and includes a virtual mixing console of 96-tracks with all the features of a hardware analogue console incorporated. The largest analogue console in our data (Behringer) has 24-tracks and costs around UK£ 780 and the smallest 16-track console (Mackie) is priced near UK£ 392. Surely, the extra functions that Cubase offers justify the additional UK£ 100 that

⁵⁰ Some of the features of a mixing console are the capabilities of sending and receiving the sound signal from different sources, i.e. equalizers, reverbs, etc. While some of them were available from the version VST 32 5, all of these features have been available from the SX series and after.

someone has to pay, in relation to the Mackie console. The comparison between the Behringer console and Cubase yields for an even higher price difference. The virtual 96-track console is cheaper from the analogue 24-track console for nearly UK£ 300. Even the sharp price decline of the Behringer console, which was around 58% for a period of thirteen years, has not resulted to a price lower than that of Cubase. For the case of Mackie it took a 43% price decrease for it to be under the price level of software. If we add on top of this all the other features and virtual equipment offered by the software then we can conclude that our data suggest this software application has lowered considerably the costs of acquiring a mixing console.

A similar comparison of the prices of the other two equipment categories with that of software would probably provide further justification of the argument that the costs of the required equipment in a virtual mode have decreased. But, since the price of just one of the equipment categories is already cheaper in a virtual mode than in its hardware analogue form, it is quite certain that the overall costs of the hardware requirements from all three categories cannot be lower than the price of Cubase. This allows us to say that there are strong indications that our second question could hold true as well. The price of this software application is lower than the corresponding prices of this group of analogue equipment, thus probably it has become cheaper to acquire or hire the equipment needed for making sound recordings.

Of course, there are some things that restrain our conclusion from being completely accurate. The most prominent one is that in order for any software to work there has to be a computer to run it on. So, when someone purchases Cubase, he does not instantly obtain a full virtual music production studio. S/he has to spend money to buy a PC able to run this piece of software as well as all the necessary equipment that will allow him to import the produced sounds, i.e. a sound card. These costs could certainly overcome the costs of a 24-track Behringer console. However, the benefit of acquiring a PC is not confined only to producing music. Their more general use and their increasing usefulness offer many advantages to those who wish to invest money in music production. So, it is possible that the overall costs of acquiring a full PC package for music production to overcome the costs of purchasing the equivalent analogue hardware recording equipment. Nevertheless, there are two set of issues that lean the balance in favor of the software solution. One is space. With software there is no need for a big space to fit all these equipment; a smaller room will probably do just fine. This would also influence the overall costs of setting up a recording studio. The

second is that of multiple utility. A PC will be useful for many other irrelevant tasks as well. These are from watching movies or listening to music up to sending emails or uploading and distributing the music that was created in this PC. In addition, as Jovanovic and Rousseau (2004) suggest, computers are part of the information technology (IT) which is considered to be a general purpose technology (GTP). From their study it can be implied that prices of computer hardware equipment have significantly decreased as well (Jovanovic and Rousseau, 2004). Despite the fact that their data cover only near the year 2000, it is reasonable to believe that these costs have either remained constant or have continued to decrease. Further research on this direction could provide us with a better overview of this matter. Nonetheless, there are signs in our data that imply the validity of our second question. Though, these signs cannot offer a decisive respond.

In closing this section, there is another key point in favor of the use of software application for music production even though it could be somewhat more expensive. According to our analysis, as the recording procedure evolved through time some more advanced recording and sound manipulation techniques arose. With the user-friendly interface of the software it is now possible for almost anyone with a very elementary skills and knowledge to apply these techniques as well. In other words the know-how of the music production procedure has become even easier (Fisher III, 2004). In addition, an important feature of a virtual environment is that almost everything can be undone. For every kind of process there is always the possibility to 'undo' it⁵¹. This provides the user with the immense option of tasting every feasible combination and sound manipulation available before choosing the most promising or the best suited outcome. This allows even an amateur to take advantage of professionally developed recording techniques.

⁵¹ That is except the function of "delete". However, there are certain applications that under some cases can retrieve deleted data as well.

Chapter 5

Research Part II

5.1 Research part II

We saw in the previous chapter that there are strong indications that cheaper means of production are now available due to digital technology. Although, Anderson (2006) suggests that this development is already being exploited by numerous artists, we have to explore this possibility a bit more. So, in order to do this, a questionnaire has been constructed and on-line interviews, in a form of survey, have been conducted. In addition, this research method will be used to assess the signs that make up for a *significant* change as mentioned in the second chapter. These are mainly three; first, there are new entrants in the market of making sound recordings due to cheaper means of productions; second, there is a tendency to a more decentralized structure of production; and third, there is a change in the method of making sound recordings that can provide greater diversity of output. Thus, the aim of this chapter is to present the task of constructing the questions that will ‘translate’ these signs into a survey form, how this task came about, and to report the findings of this research part.

5.2 Research Design

The first major question that we have to answer is what kind of population can provide the answers that we are looking for. Logically, it has to be people that are affiliated with the record industry in one way or another, have experience in sound recordings, and they are a bit familiar with the technology of computers. For the purposes of this study we can accept that there are no limitations concerning their age or gender, their commercial success if they are artists, or what is their occupation as long as they fulfill the criteria mentioned above. Not surprisingly, there is not a comprehensive list or directory of that kind of population. This poses the problem that we cannot compile an accurate or complete sampling frame. Thus, we are left with non-probability sampling techniques (Seale, 2004). This kind of method, however, constrains any statistical inference to the general population. In contrast to probability sampling where the “*selection mechanism permits the development of statistical theory to examine the properties of sample estimators*” (Kalton, 1983: 90), non-probability sampling techniques present the weakness that such a theoretical development is not possible (ibid). So, why to use this kind of research method at all? The answer is that this kind of method has shown through past experience that has

worked well⁵² (Kalton, 1983), and that it can be regarded as suitable for exploratory purposes (Kish, 1965). Since this research is meant to function as an exploratory tool, non-probability sampling techniques can be adopted as useful. Hence, this research can only, at best, reveal some tendencies that can be used as a source for further research (Seale, 2004).

The sampling method employed in this part is called ‘network or snowballing’ and this means that “*respondents are obtained through referrals among people who share the [same] characteristic*” (Seale, 2004: 177). However, the drawback is that there is a possibility that the majority of the respondents will belong to the same network which will bias the findings. One way to deter this problem is to “*find multiple starting points for snowballing so that access to more than one network is obtained*” (ibid). The sample of this survey was compiled by this method; respondents were asked to participate to an on-line survey via a web link through e-mail invitations⁵³. From the entire range of people affiliated with the record industry I chose to focus in three main groups; the artists, the producers, and the sound engineers or technicians. Their e-mail addresses were obtained by three ways. One way was by face to face contact in concerts or recording studios. I explained to them what I was doing and asked them whether they are willing to participate in this research. Most of them replied affirmatively but they preferred to give me their e-mail address rather than completing the survey on spot. The total number of artists that I e-mailed was 45; these artists were from different genres, music styles, established or new ones. The second way was by using the directories available from the ‘Research Institute for Music and Acoustics’⁵⁴ (IEMA). I used their directories of recording studios (170) and record labels (162). Unfortunately, from a sum of 332 listings only 147 had a valid e-mail address. Thus, the total number of e-mail invitations sent was 192. The third way was to post a forum thread in a site for amateur musicians⁵⁵ and asking them to participate in the survey. From a total of 192 e-mail invitations and one posted thread in a forum there were 118 people that initiated the survey.

⁵² Though, this is not a guarantee that this method will show the same behavior in the future (Kalton, 1983).

⁵³ Almost in every e-mail invitation there was a request to forward the link to others as well.

⁵⁴ www.iema.gr

⁵⁵ www.musicheaven.gr

Unfortunately, only 83 (70.3%) have fulfilled the questionnaire⁵⁶ in a satisfactory level. However, in these kind of sampling techniques where there are no sampling frames “response rates⁵⁷ for those samples are not meaningful” (Schonlau, et al., 2002: 10).

The questionnaire was designed in order to explore the possibility that the signs that constitute a *significant* change will be apparent in the answers. For the first sign, that of new entrants in the market of making sound recordings, the questions were focused on revealing that indeed there has been an important decrease in the cost of obtaining or acquiring the necessary recording equipment since this gear has been proved to function as an entry barrier in this market (Tschmuck, 2006). For the second sign, that of a more decentralized structure of production, the questions concerned the possibility for more financial independence for the actual creators of the sound recordings since that was a strong indication for the previous decentralizing of the production (Lopes, 1992; Dowd, 2004; Tschmuck, 2006). Perhaps, this should be explained a bit more. The previous decentralizing of production became feasible when the majors shifted their music production for sound recordings from a strictly in-house procedure to a task outsourced to smaller independent labels. A further decentralizing procedure would suggest that now it is not only small independent labels that can finance the recording sessions but creators themselves as well. The decision making concerning what is being recorded is further decentralized to the level of a single creator. That was the indication used also for the previous decentralization (Lopes, 1992; Dowd, 2004). For the third sign, that of a change in the methods of making recordings that would yield an increase in diversity, the questions were focused on the relation of artistic freedom and the financing modes of the recording sessions.

The first question, however, aimed at providing an indication of the experience that the respondent has on sound recording sessions. Another set of questions aimed at providing the status of the respondent in terms of being a professional one or an amateur. Two major criteria were adopted to realize this aim; income earned by the activity of music production and time spent on music production activities. The rest of

⁵⁶ This was expected since respondents had the option to skip the majority of the questions without providing an answer; very few questions required an answer. However, item nonresponse is regarded as criterion for data quality.

⁵⁷ The response rate “is the ratio of the number of respondents to the number sampled” (Schonlau et al., 2002).

the questions concerned some demographic information, the respondents' occupation, and any comment that they would like to offer⁵⁸.

5.3 Data Collection and Analysis

Certain decisions were taken in order to satisfy our main premises for the characteristics of the sample. Beside the fact that the 'target groups' were artists, producers, and sound engineers, the first question of the survey functioned also as an indication for experience in sound recordings. People that declared none past experienced in sound recordings were led to the end of the survey and a displayed message explained to them that this survey refers only to people with experience in sound recordings. In addition, the survey was conducted strictly via a web-link which required the respondents to be up to some degree familiar with the technology of computers⁵⁹. The data for this research part were collected between mid September and mid November, 2008. The survey was conducted in collaboration with a web-based company called 'SurveyMonkey' which specializes in providing the tools for on line surveys. The surveys' language was Greek because the focus was on Greece. Why this country and not, for examples, the Netherlands? First of all, due to my previous working experience it was easier to get in contact to the possible participants of the survey and the communication was much easier. Second, Greece is a country with a high rate of physical piracy⁶⁰ which means that investments in sound recordings are not so secured and that in general there is a difficulty in 'monetizing' through copyright. This would suggest that investments in new, innovative acts could be low. This situation in combination with the fact that, according to the organization for the internet world statistics, the internet penetration rate in Greece is quite low⁶¹, new artists might find it harder to sign a record deal and consequently more difficult to support their attempts for a career in music. These conditions might have induced them to explore any other potential way that would help their attempts for a music career, including cutting down the costs of expression. For all these reasons Greece presents an interesting case to be studied.

⁵⁸ To view all the questions of the questionnaire see Appendix C.

⁵⁹ The premise of previous familiarity with the computer technology constrained the magnitude of coverage error that inhibit the web or e-mail surveys (Schonlau, et al., 2002).

⁶⁰ According to IFPI (2007) this rate is above 50%.

⁶¹ Source: www.internetworldstats.com

The analysis of the data was done with SPSS. Univariate analysis was done for the majority of the variables and only for some variables a bivariate analysis was employed. A simple set of descriptive statistics was applied and no test for statistical significance was done since a probability sample is required and in this survey this was not the case (Seale, 2004). The responses were coded in order for the analysis to be feasible⁶².

5.4 Research Findings

Firstly, we should look for some characteristics of the respondents of this survey. Previous experience in sound recordings was the first question of the survey. Thus, from the 118 initiated participants 107 stated that they had previous experience in sound recordings at least as artists, producers, and sound engineers⁶³.

Do you have any kind of experience from a sound recording session? You may mark several options.		
Answer Options	Response Percent	Response Count
Yes, I have participated as a musician/performer.	78,5%	84
Yes, I have participated as a producer.	53,3%	57
Yes, I have participated as a sound engineer/technician.	51,4%	55
Yes, I have participated as a listener/visitor.	27,1%	29
No, I have no experience from a recording session.	0,0%	0
	<i>answered</i>	107
	<i>skipped</i>	0

However, in order to improve the quality of data, from these 107 respondents a subgroup of 83 participants was selected based on the degree of completion of the several sections of the survey. The selection process was provided as a tool from ‘SurveyMonkey’. From them, 30 classified themselves as professional artists⁶⁴; 27 chose that their profession was related to music⁶⁵; 25 people said to have an amateur relation to music⁶⁶ and one chose ‘none of the above’. These information are depicted in the following pie chart.

⁶² The coding is presented in detail in Appendix C.

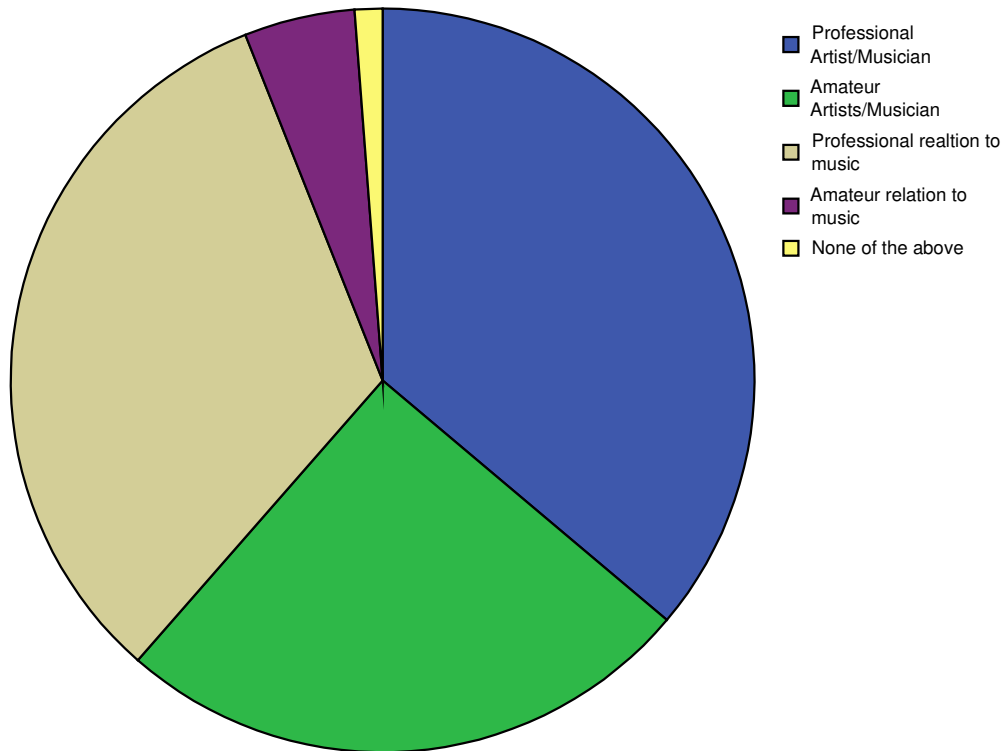
⁶³ Respondents had the option to mark more than one question.

⁶⁴ The option was referring to artists/musicians (performer, singer, and/or composers)

⁶⁵ The option was referring to profession such as music producers, sound engineers, record labels’ manager, scouting agent, artists’ manager etc.

⁶⁶ These relations were either amateur as artists/musicians (performer, singer, and/or composers) or as amateur music producers, sound engineers.

Music_Relation



Another source of information about the respondents was the question for their main professional activity. So, in the sample there are 14 people that declared their profession to be ‘musician’, 12 as ‘music producers’, 10 as ‘sound engineers’, and 18 as having irrelevant professions. The average reported age is nearly 34 years old and the distribution of the ages reported is the following:

	Frequency	Percent	Valid Percent ⁶⁷	Cumulative Percent
Valid 18-25	16	19,3	19,3	19,3
26-35	31	37,3	37,3	56,6
36-45	27	32,5	32,5	89,2
46-64	9	10,8	10,8	100,0
Total	83	100,0	100,0	

As the following table shows, the majority of the respondents are male:

⁶⁷ The difference between ‘Percent’ and ‘Valid Percent’ is that in the latter column the missing values are excluded.

Φύλο (Gender)		
Answer Options	Response Frequency	Response Count
Αρσενικό (Male)	91,6%	76
Θηλυκό (Female)	8,4%	7
<i>answered question</i>		83
<i>skipped question</i>		0

Two other variables are useful to present the nature of our sample. In order to explore the status of our respondents, two criteria were adopted. The first one was relevant to their ‘income’ from music production activities and the second one was ‘time’ devoted in music production activities. Thus the first table shows the distribution of income and the second the distribution of time.

Income

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Primary	28	33,7	33,7	33,7
Secondary	17	20,5	20,5	54,2
Negligible	16	19,3	19,3	73,5
None	22	26,5	26,5	100,0
Total	83	100,0	100,0	

There is a 33.7% that derives its main income from music production activities and another 20.5% that it is its secondary source of income. The remaining 45.8% stated that income from these activities is either negligible (19.3%) or none (26.5%). But according to Throsby (1997), ‘time’ is also important for those who deal with artistic activities seriously. Thus the next table is about ‘time’.

Time

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Daily basis	36	43,4	43,4	43,4
3-5 per week	13	15,7	15,7	59,0
1-2 per week	2	2,4	2,4	61,4
5-10 per month	8	9,6	9,6	71,1
1-4 per month	11	13,3	13,3	84,3
Less than 10 per year	13	15,7	15,7	100,0
Total	83	100,0	100,0	

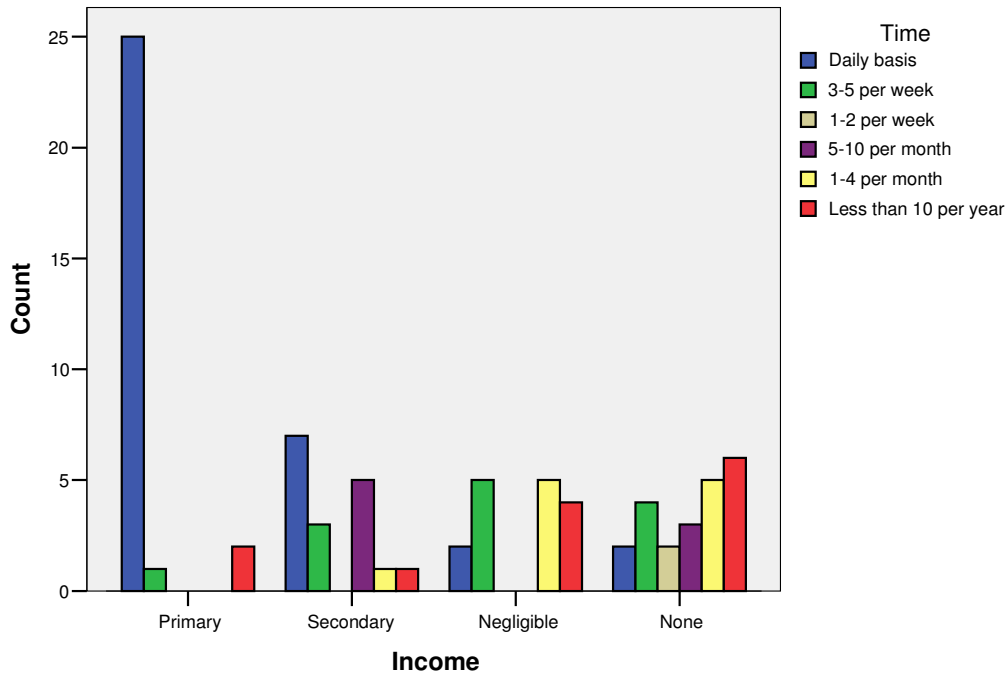
Here it is depicted that 61.4% of the respondents deal with these activities at least 1-2 times per week and from them 43.4% in a daily basis. The bivariate analysis of these variables shows:

Income * Time Crosstabulation

			Time						Total
			Daily basis	3-5 per week	1-2 per week	5-10 per month	1-4 per month	Less than 10 per year	
Income	Primary	Count	25	1	0	0	0	2	28
		% of Total	30,1%	1,2%	,0%	,0%	,0%	2,4%	33,7%
	Secondary	Count	7	3	0	5	1	1	17
		% of Total	8,4%	3,6%	,0%	6,0%	1,2%	1,2%	20,5%
	Negligible	Count	2	5	0	0	5	4	16
		% of Total	2,4%	6,0%	,0%	,0%	6,0%	4,8%	19,3%
	None	Count	2	4	2	3	5	6	22
		% of Total	2,4%	4,8%	2,4%	3,6%	6,0%	7,2%	26,5%
Total		Count	36	13	2	8	11	13	83
		% of Total	43,4%	15,7%	2,4%	9,6%	13,3%	15,7%	100,0%

The 30.1% of the respondents derives its main income from music production activities and deals with them in a daily basis. The second highest percentage is 8.4% and refers to those who deal with music production activities in a daily basis but any monetary rewards derived represent their secondary source of income. The percentage of those who do not derive any income from these activities and deal with them less than ten times per year is 7.2% and it is the third highest percentage. An overview of this table and the following bar chart gives a clear view of the status of the respondents:

Bar Chart



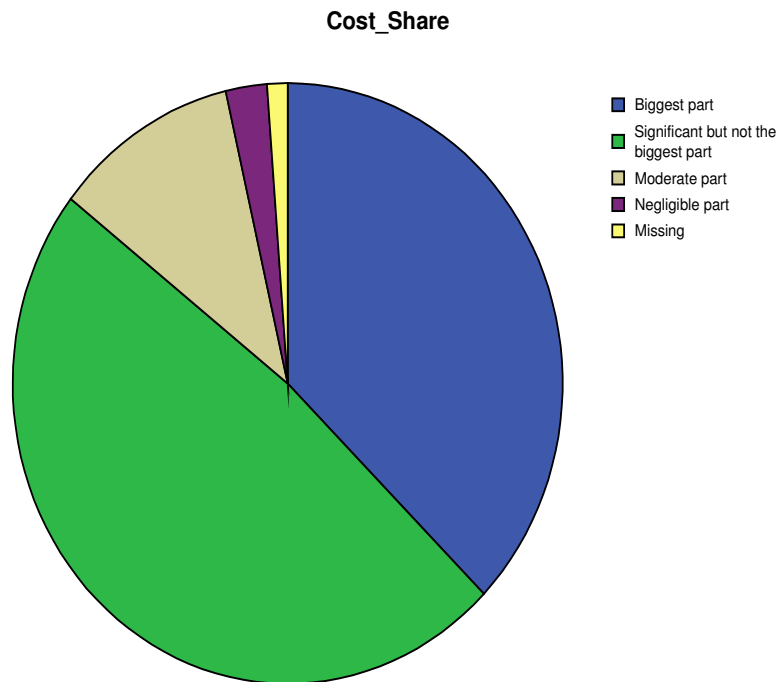
One of the reasons for this survey was also to provide more support to the findings of the first research part, meaning that the cost of the necessary equipment used for the sound recording sessions and their process have decreased. This would suggest a decline of one feature of the entry barriers of this market⁶⁸. Thus, some questions were focused on exploring whether there is a cost decrease in the necessary recording equipment and if it is digitalization the main cause of this decrease. So, the first question concerning this matter was to explore what was the share of the recording costs in the overall costs of a music production. Half of the respondents (48.2%) stated that it is a significant part but not the biggest while 37.3% believe that it is the largest part.

Cost Share

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Biggest part	31	37,3	37,8	37,8
	Significant but not the biggest part	40	48,2	48,8	86,6
	Moderate part	9	10,8	11,0	97,6
	Negligible part	2	2,4	2,4	100,0
	Total	82	98,8	100,0	
Missing	System	1	1,2		
	Total	83	100,0		

In the following pie chart, it is more obvious that the majority of the respondents think of these costs as a significant part, if not the largest, of the overall costs of a music production. This provides more support that a change in these costs is at least as significant as the change in the costs of reproduction and distribution.

⁶⁸ A major other one is the 'know-how' (Vogel, 2007).



Moreover, more than eighty percent (80.7%) believe that, during the last 10 years, there was a decrease in these costs caused by developments in digital or analogue technology. Another 8.4% believe that these costs have decreased but not due to technological developments and 8.4% is also the percentage of those who believe that these costs have not changed much or at all. In order to explore more the cause of this decrease, the next question of the survey aimed at searching the share of responsibility that digitalization has in this decrease. The answers are summed as follows: 56.6% stated that digitalization is ‘Highly Possible’ to be the cause for this decrease while 28.9% believe that to be only ‘Possible’. Another 4.8% stated that digitalization had no impact at all to these costs and the remaining 9.6% represents the rest of the options⁶⁹.

The next question was in the form of a Likert-scale and its aim was to explore the way that digitalization has decrease these costs. As every other productive procedure, the production of sound recordings has two main productive variables. Firstly, is ‘capital’ and includes the necessary equipment for the recording sessions and secondly, is ‘labour’ and includes the act of performing and the act of sound processing. We can specify even more by categorizing capital in two main categories,

⁶⁹ The other options were: “Digitalization is Possible to have Increase these costs”, “Digitalization is Highly Possible to have Increase these costs” and “Do not know/cannot estimate”.

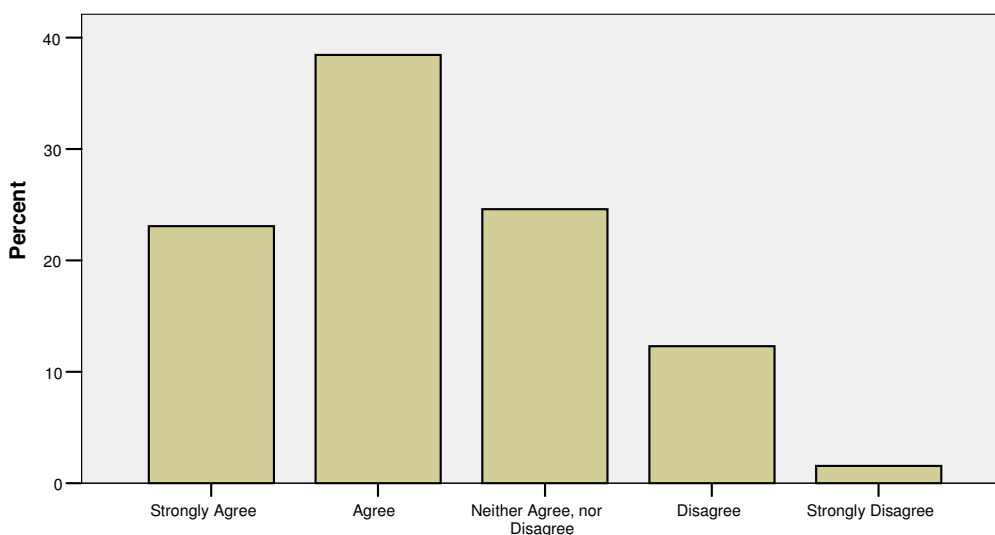
hardware and software, and labour for performers⁷⁰ and for sound technicians⁷¹. The respondents were asked to choose an answer between the range of ‘Strongly Agree’ to ‘Strongly Disagree’⁷² for a question concerning four possible causes of the cost decrease; capital (hardware and software) and labour (performing duration and sound processing duration). From the analysis we get the following table.

Statistics

		Capital_ Hardware	Capital_ Software	Labour_ Performers	Labour_ SoundEng
N	Valid	65	64	64	62
	Missing	18	19	19	21
Median		2,0000	2,0000	3,0000	2,0000
Mode		2,00	2,00	2,00	2,00
Range		4,00	3,00	4,00	4,00
Minimum		1,00	1,00	1,00	1,00
Maximum		5,00	4,00	5,00	5,00
Percentiles	25	2,0000	1,0000	2,0000	2,0000
	50	2,0000	2,0000	3,0000	2,0000
	75	3,0000	2,0000	4,0000	3,2500

As it is depicted, the mode from all four categories is ‘2’ which means ‘Agree’ in the cause of the decrease. The following bar charts depict the distribution of answer more clearly:

Capital_Hardware

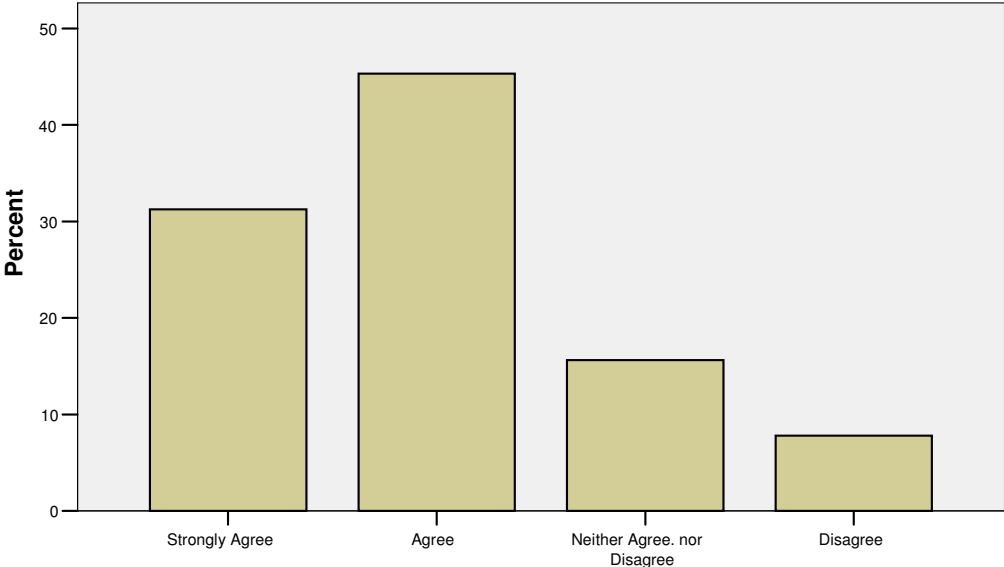


⁷⁰ It mostly concerns the act of performing for the recording sessions.

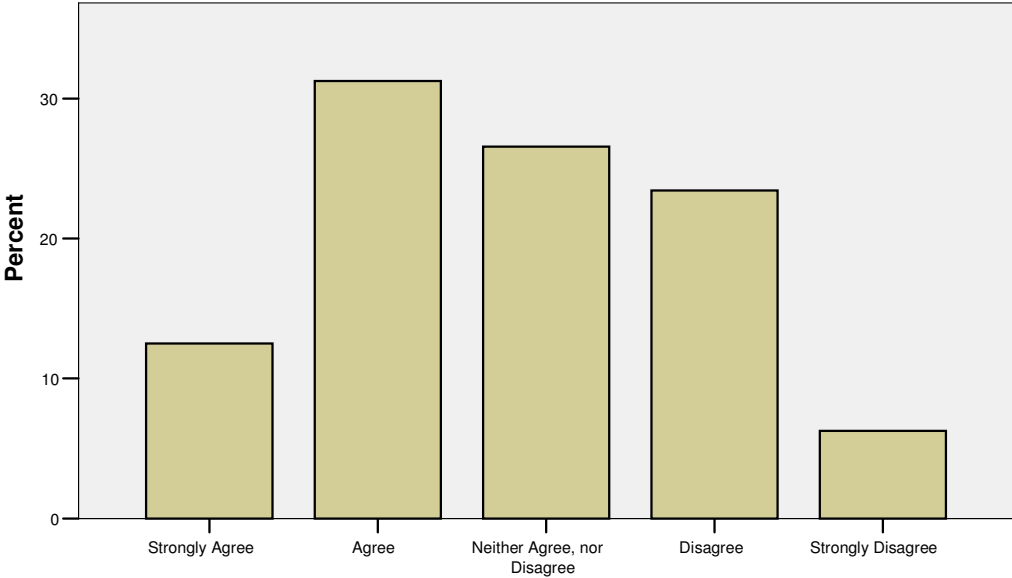
⁷¹ It concerns the labour about sound processing (mixing, mastering, special effects etc.)

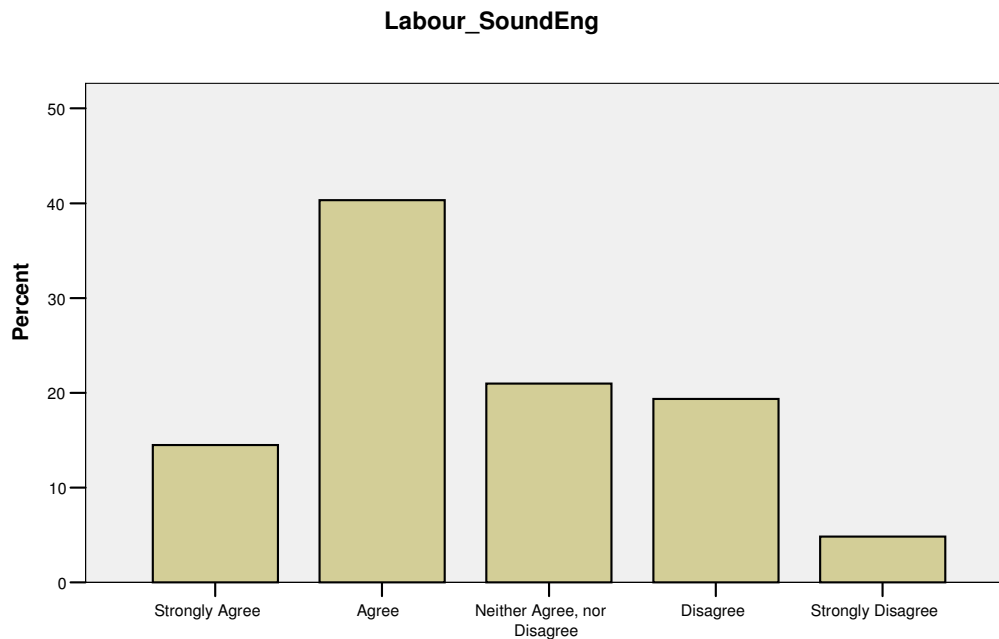
⁷² 1= Strongly Agree, 2=Agree, 3= Neither Agree, nor Disagree, 4= Disagree, 5= Strongly Disagree.

Capital_Software



Labour_Performers





As illustrated above, there is a tendency from the respondents to state that the causes of these cost decrease were mostly decreases in the cost of the two capital categories and the labour category for sound processing. The labour for the act of performing seems to be the only one that the negative or neutral options are strong. It is interesting to report here that many comments from the participants referred to a substitution effect of the work of sound engineers and recording studios from some new technological developments, mainly software applications. One participant reported also that there is a huge decrease in the number of professional recording studios in Greece from 6.500 in 2003 to 700 in 2007⁷³. So, these comments seem to support the results of this question.

So far, we have addressed the first sign that would make up for a *significant* change. The second refers to the signs towards a more decentralized system of production. The only variable that was explored for this sign concerned the issue of who is providing the funds for the recording sessions. Until very recently, only record labels could provide these funds. However, it seems that due to this decrease that is under investigation in this study, creators have found other ways to provide the funds for these sessions. Thus, the following question aimed at exploring this possibility. The question was ‘*Who can provide the funds for the recording sessions and their*

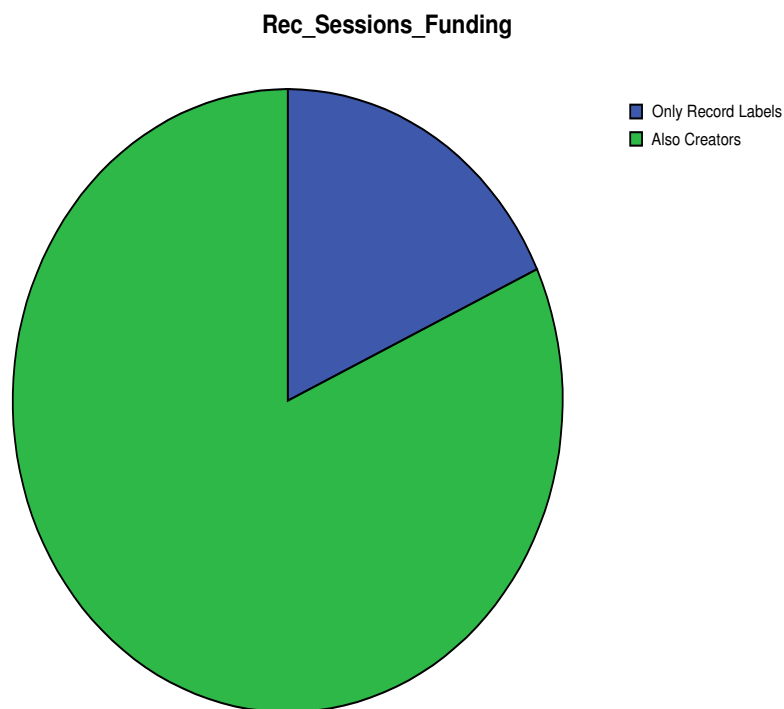
⁷³ This decrease, however, has not been confirmed and the participant did not made any reference to any official source.

process (mix, mastering, etc.) of a music production that consumers will be willing to buy?’ The answers are summarized in the following table.

Rec_Sessions_Funding

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Only Record Labels	15	18,1	18,1	18,1
	Also Creators	68	81,9	81,9	100,0
	Total	83	100,0	100,0	

The pie chart gives an even more revealing picture.



However, these responses do not provide us with any other clue in relation to the alternatives available to creators. Hence, this was the goal of the next question. Three alternatives were explored; these were the ‘personal savings’ of the creator, ‘financial help’ from friends and family, and ‘bank products’ (loans, credit cards etc.). Respondents were asked to rank these alternatives, putting as first the most probable and as third the least probable. The next table shows the results.

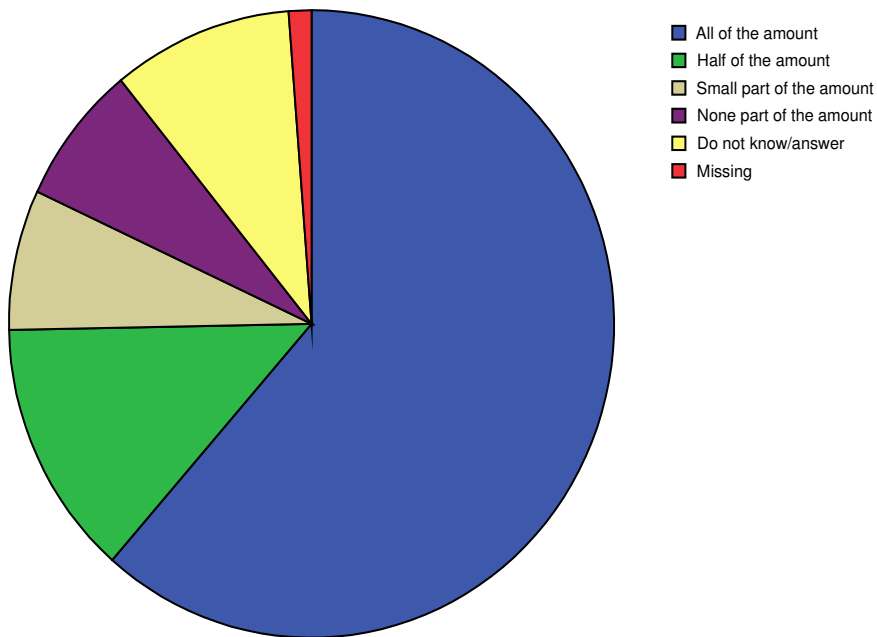
Statistics

		Personal_ Savings	Financial_ Help	Bank_ Products
N	Valid	64	61	63
	Missing	19	22	20
Median		1,0000	2,0000	3,0000
Mode		1,00	2,00	3,00
Range		2,00	2,00	2,00

As the table shows, the option ‘Personal Savings’ seems to be the most probable, while ‘Bank Products’ is the least probable. ‘Financial Help’ from friends and family is ranked second.

The last question in relation to the tendency towards a more decentralized system of production was meant to explore the willingness of the respondents to self-finance their next music production. The options were given in a range from self-financing the entire amount to not providing any funds for the next production.

Willingness_to_self_finacne



As the pie chart shows, the majority seems to be willing to provide the entire amount for the next music production. The responses are presented in more detail to the following table.

Willingness_to_self_finacne

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	All of the amount	51	61,4	62,2	62,2
	Half of the amount	11	13,3	13,4	75,6
	Small part of the amount	6	7,2	7,3	82,9
	None part of the amount	6	7,2	7,3	90,2
	Do not know/answer	8	9,6	9,8	100,0
	Total	82	98,8	100,0	
Missing	System	1	1,2		
Total		83	100,0		

A percentage of 61.4% of the respondents are willing to provide the entire amount and a 13.3% is willing to provide half of the amount. The remaining 24.4% is either willing to provide only a small part of the amount (7.2%), none (7.2%), or did not answered (9.8%).

The third and last sign that this survey was meant to explore was that of greater diversity of output. Two questions in the survey aimed at exploring this issue. Firstly, the concept of ‘artistic freedom’ was defined for the needs of this questionnaire as the absence of restricting rules in the theme of the lyrics, the music style or the music composition. Then it was asked from the participants whether artistic freedom is influenced by the fact that a record label or a creator provides the funds for the recording sessions.

Record_Label_Fund_Artistic_Freedom

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Highly Possible to Constrain	31	37,3	37,3	37,3
	Possible to Constrain	38	45,8	45,8	83,1
	No influence at all	9	10,8	10,8	94,0
	Possible to Enhence	2	2,4	2,4	96,4
	Highly Possible to Enhence	3	3,6	3,6	100,0
	Total	83	100,0	100,0	

This table reveals a tendency towards an artistic constrain due to the finance from the record labels. From the respondents 37.3% stated that this way of finance is ‘Highly Possible’ to constrain the artistic freedom while 45.8% stated that this way is only ‘Possible’ to constrain artistic freedom. On the other side, the respective answers concerning the finance that comes from the creator, there is a 31.3% saying that this

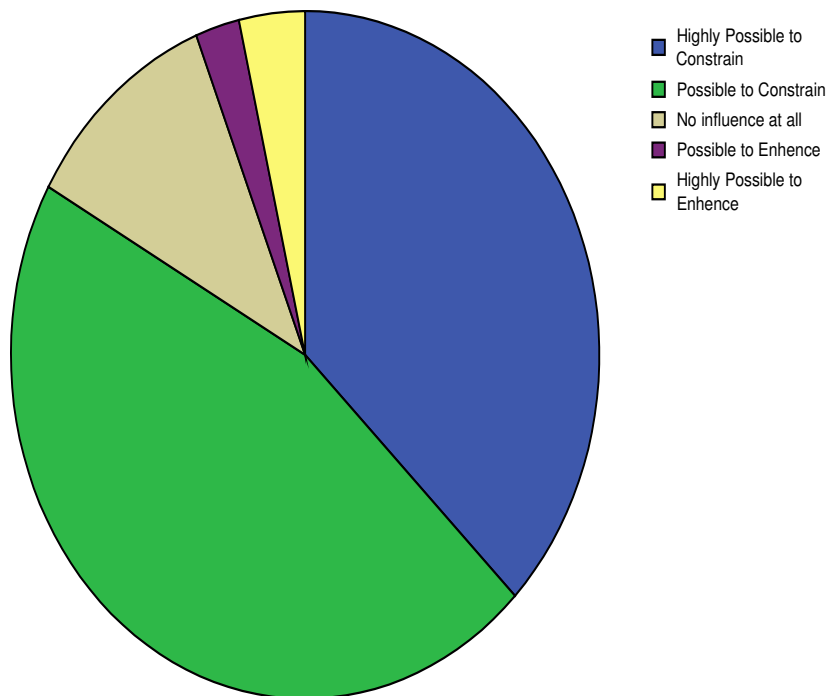
way has no influence at all to the creative freedom. The following table summarizes these results.

Creator_Artistic_Freedom

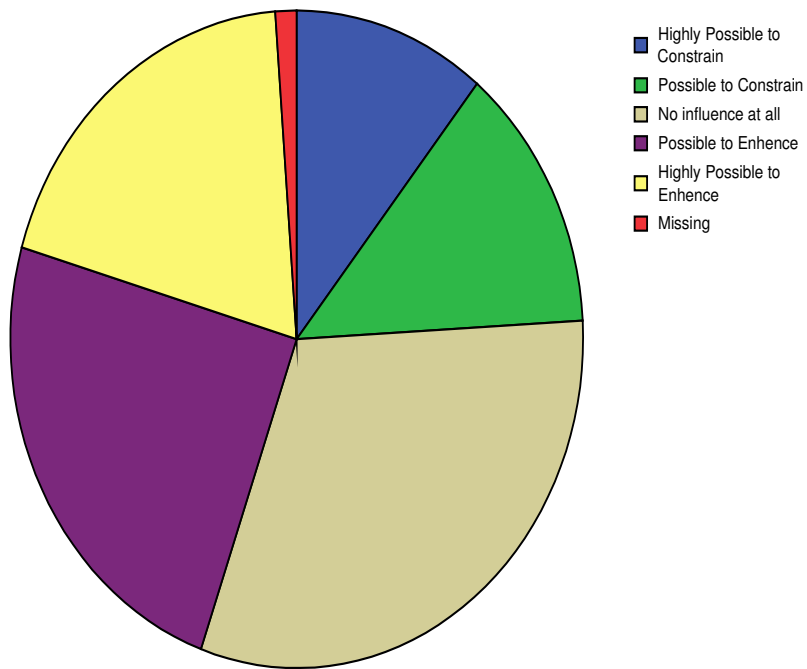
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Highly Possible to Constrain	9	10,8	11,0	11,0
	Possible to Constrain	11	13,3	13,4	24,4
	No influence at all	26	31,3	31,7	56,1
	Possible to Enhence	20	24,1	24,4	80,5
	Highly Possible to Enhence	16	19,3	19,5	100,0
Total		82	98,8	100,0	
Missing	System	1	1,2		
Total		83	100,0		

But perhaps more obvious are the relevant pie charts.

Record_Label_Fund_Artistic_Freedom



Creator_Artistic_Freedom



The basic difference seems to be that if the funds are being provided by the record labels then there is a tendency towards a constrain of artistic freedom, while almost on the contrary, if the funding comes from the creators there is a tendency towards enhancing the artistic freedom.

Chapter 6

Conclusion

6.1 Conclusion

The logical foundation of this study was based on indications that digitalization has caused a decrease in the costs of expression. Hopefully, by now, these indications should seem to hold true even more. Where did this decrease come from? Was it from a decline on labor costs or on capital requirements? The answer of course, is far from conclusive but it seems that both labor costs and capital requirements have been influenced by digitalization. But a more practical question is probably whether this decrease is significant or not. Thus, according to those premises set in the second chapter we have to assess any answer under two main lenses.

The first one is quantitative. Have the cost of expression decreased in such a degree that this market will allow for new entrants? Or does the cost of producing the first copy of a music work declined so much that a further decentralization of production can now be feasible? The answer is 'perhaps yes'. Apart from the obvious fact that this is a study in a master level, hence, no decisive conclusion could come out of it, there are also numerous other reasons that restrict us from reaching a more certain outcome. A major one is that no comprehensive directory of new music producers exists. The number of new record labels could be one such good indication and indeed there are some signs of new entrants (Handke, 2006). Another sign is the effort of companies, outside the record industry, that try to get some piece of the pie, i.e. Live Nation. However, we still cannot be certain. Moreover, although we can claim that the costs of expression have decreased we cannot evaluate if there can be further decentralization of the structure of production since these are on-going events. As it has happened once before with the advent of cheap recording equipment⁷⁴, first there were new independent record labels establishing contact directly with the consumers and taking their share of the market. After that, this symbiotic relationship with the major companies was developed which also allowed for a decentralization of production. Hence, it seems that now we are experiencing the first phase of this procedure⁷⁵ and if a further decentralization is to come after, it will be so in the future. Nonetheless, there are strong indications that financially there is the possibility for the decision making to be wider, to the level of a single creator. In relation to our second premise that refers to an increase in diversity and can be 'translated' to the satisfaction of an additional fraction of the unsated demand, conclusions are even more blurry. As

⁷⁴ That is the magnetic tape recording technology.

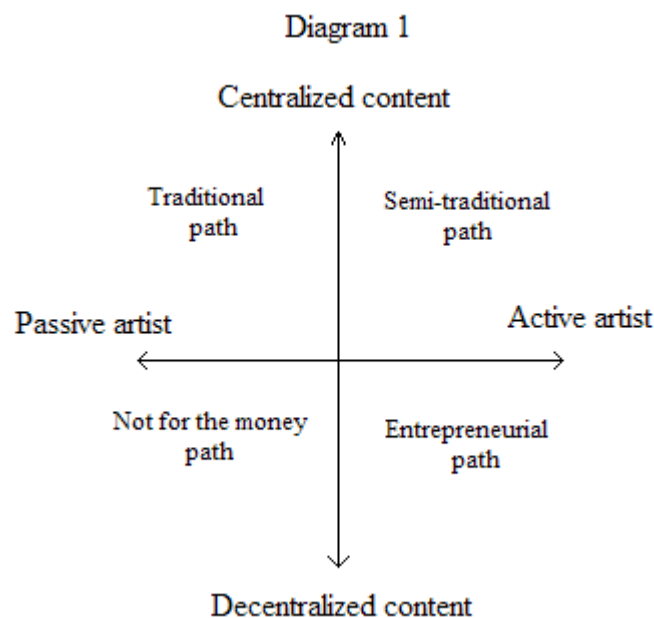
⁷⁵ If there can be a pattern to this procedure at all.

we show in chapter two, this extra demand was expressed by an increase in the consumption of sound recordings, thus, growing the market further as a whole. Unfortunately, we have not seen lately any similar increases in the overall market of sound recordings. Quite the contrary has been observed. However, there is a phenomenon that can be 'blamed' for distorting our receiving 'image' and that is piracy. It can be suggested that while the sales volume may have decreased consumption of music could have increased (Anderson, 2006). With all the illegal or free music content going around the internet we cannot be sure whether more or less demand has been satisfied or not. It is possible that in the future, when new measures would be capable of capturing all the volume of music content available on the internet, a clearer image would be obtainable.

Thus far, we have attempted to answer our first sub-question which refers to the significance of the change caused by digitalization and the outcome can be characterized as inconclusive. Change there is; however, it is not yet easy to make any assessment of its significance.

On the other hand, if we want to answer our second sub-question we have to refer to chapter three. There, it was mentioned that the relations that will be surely influenced by a change in the cost of expression are those between artists and record labels. So, if the structure of the record industry is to be affected it will probably start from these relations. As we saw, traditionally, artists seek to contract with a record label mainly for two reasons; one is for financing the recording sessions and the other is for 'monetizing' the outcome of these sessions. Our data set provide some indication that the decrease in the cost of expression had affected the former. Artists are now not solely depended on the record labels to realize their recording sessions. Other ways of financing are now available to creators. Then again, it is far from certain that artists have found other ways for 'monetizing' their creations. A contract deal with a record label does not provide only the financing of the recording sessions but all the other necessary mechanisms for creating a profit out of them as well. So, it is likely that if artists still wish to recover some of the money invested in the recordings, from the recordings, then they will have reach to some kind of an agreement with a record label, albeit it can be a very different one from the traditional. The new kind of agreements may depend on the degree of 'business spirit' that the artist is willing to adopt or the range of activities that wishes to entrust to the record label. Surely, for an artist a contract deal with a record label does not only function in the 'monetary' level. Signing a record deal may provide some non-pecuniary rewards

to the artist such as peer-recognition or a feeling of success just by having this contract, similar to the non-pecuniary rewards that artists get when they receive a public subsidy (Abbing, 2007). Yet, it is quite a development for a creator to be independent in the creative process of sound recordings. In combination with other technologies⁷⁶ new ways have been created for an artist to communicate with his/her fan base or reach new audience. And since not all artists are willing to be fulltime artists (Throsby, 1994) and monetize their creations, these new possibilities provided by digitalization may create different patterns of artistic careers. Based on a very illuminating diagram in Kretschmer et al. (2001) referring to the future scenarios of the record industry structure, we can sketch a similar diagram in relation to the future scenarios of artists' career paths.



As we can see there are two axes. In the vertical one, as in the diagram by Klimis (Kretschmer et al., 2001), there are the two extremes of the ownership status of intellectual property rights (IPRs) of an artistic work. The horizontal axis represents the degree of business activities that an artist is willing to be engaged with, thus being more active or passive as an entrepreneur. By this way there are four scenarios created. The first one, upper left, is the traditional career path of an artist that chooses to deal only with the creation of works and leaves the rest to the record company deriving his income by collecting royalties, the way it was done for years now, or

⁷⁶ Internet, compression etc.

through live performances. The second scenario, down right, refers to an artist who wishes to be completely free of any relationship with any record label and chooses to go along on his/her own and be a businessman/businesswoman as well. By this way, s/he will get to fully own his/her IPRs. The third scenario, upper right, is something between these two abovementioned cases. An artist would probably exploit any opportunities given by the new technologies, finance his/her first steps and then make some kind of an arrangement with a record deal for physical distribution, licensing agreements etc. Under this case, the artist will hand over a part of the ownership of his/her IPRs in return for some services like better monetizing structures, greater promotion and other. The last scenario refers to this kind of artists that wish to be free of any contract but they also choose not to go into any special effort and try to cash out their creations. These artists will exploit up to some degree the given technology and they'll keep their IPRs, without however, managing to earn any money from their sound recordings. Perhaps, for them sound recordings would be just a promotional tool and nothing more. Though, what is true for every case is that artists will have to make a rather conscious choice between these different career paths concerning the fate of their sound recordings. Now, if we ask ourselves how these potential changes may affect the structure of the music industry as a whole we can say that one obvious way is by changing the occupational paths of the people involved, and mainly the artists. But, I think we have already gone too far elaborating.

6.2 Remarks

At the opening chapter of this thesis there was reference to terms like 'competition' and 'market'. Thus, to what market does this thesis refer to? And, finally, did anything beneficial arise by enhancing the competition in this market? It is rather clear that this thesis is referring to the market of sound recordings where, however, producers are the creative artists and not record companies. The lowering of the entry barriers enhanced competition in the sense that now more content is available to consumers and by more than one routes. Before, it was only through record labels that any sound recording was available to consumers. Nowadays, sound recordings can be found via the internet without the interference of record label at all. Thus, increased competition in the level of producers created different sources for consumers to find music content. Interestingly, it was not record labels that first explored new ways of reaching consumers but mostly amateur artists that have

managed to produce their sound recordings due to cheaper means of production. However, as it is with every new technology it requires the funding ability of a big company to fully research, develop, and finally exploit the new possibilities offered by these new technologies (Dickson, 1974; Keen, 2007). What can arise by this situation is rather difficult to predict. It is likely that these technologies will find different uses and these uses will create trajectories of different outcomes where the outcome that will prevail is ex ante unknown (Lipsey, 2005).

As far as it concerns policy issues, our research suggests that if copyright legislation is to be used as an incentive for creativity it should be noted that the cost of expression seem to have been significantly decreased. Therefore, strengthening copyright might not be the most suitable solution. However, if the aim is to boost the existing structure of record companies this strategy is justifiable (Towse, 2008). Though, if the other three scenarios of career paths are to be supported legislation should be developed for them as well. Actually, some kind of legal framework is being set up for the last scenario by the creation of ‘creative commons’⁷⁷. It remains to see what kind of efforts will happen to support the other two scenarios.

6.3 Limitations

Generalization is, perhaps, a forbidden word for this research. There are many practical reasons why the findings of this research cannot be taken to apply for a broader population or even for a different sample. However, there is another issue that poses a more serious restriction to this study and that is its methodology. According to Blaug (1992: 110) *“because storytelling lacks rigor, lacks definite logical structure, it is all too easy to verify and virtually impossible to falsify. It is or can be persuasive precisely because it never runs the risk of being wrong”*. So, why use this method at all? As mentioned also in the first chapter it is because this methodology is perhaps more suitable for attempting to understand some events and changes in structures (Hodgson, 2008; Blaug, 1992). Validating this piece of research would require actions such as asking whether *“the facts are correctly stated; if other facts are omitted; if the lower-level generalizations are subject to counterexamples; and if we can find competing stories that will fit the facts”* (Blaug, 1992: 110) Hence, this research should only be taken as an effort to explore further the obvious signs of change

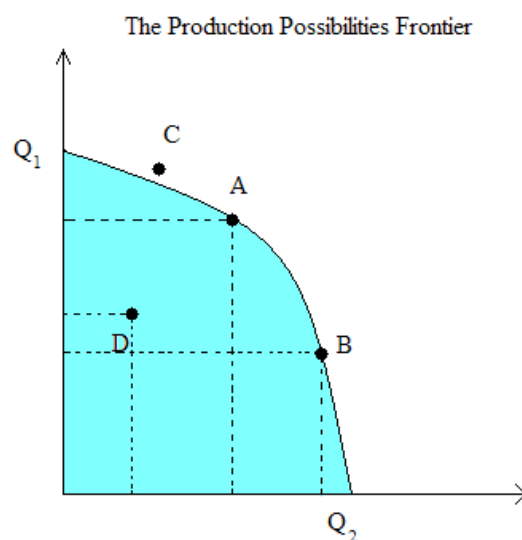
⁷⁷ This is an effort for artists that do not aim to profit from their creativity. For more see www.creativecommons.org

created by digitalization in the cost of expression. Hopefully, this study can be used as one of the starting points for further research over the changes in the available options created for artists in relation to their creative careers.

Appendix A

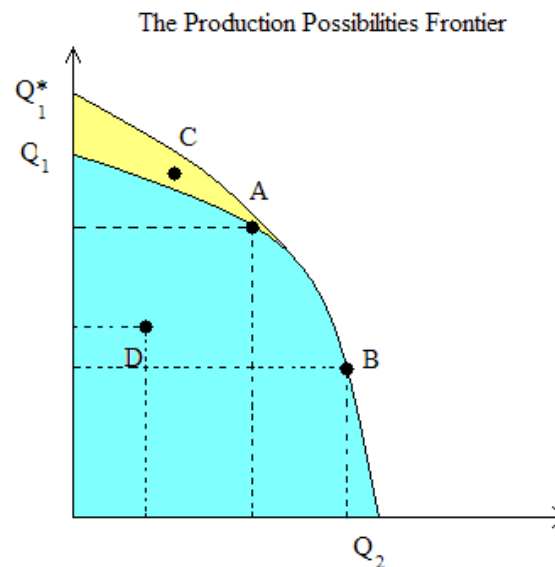
Basic Economic Concepts

A very prominent concept in economics is scarcity. Scarcity, in a society, refers to the limited resources available for the realization of goods and products that will cover its needs. Thus, the science of economics is studying the management of scarce resources in a society (Mankiw and Taylor, 2006). Of course, economic science did not have this specific meaning from the beginning. There was a time when economics were regarded as “*an investigation of ‘the nature and causes of the wealth of nations’ (Smith), ‘the laws which regulate the distribution of the produce of earth’ (Ricardo), and ‘the laws of motion of capitalism’ (Marx)*” (Blaug, 1997: 4). However, it is the former definition of economics that can be seen as the ‘mainstream’ and has a prominent role in every course of economics. Another important concept refers to the relation between technology and economic development. The combination of resources available to a society can produce only a limited amount of output. This can only change if technological developments allow for the resources to be more productive. There is a graph that shows the relation between technology and the production possibilities of an economy and its resources. This is the ‘Production Possibilities Frontier’ graph that is portrayed here (Mankiw and Taylor, 2006):



If we assume that the society produces only two products, Q_1 and Q_2 , then its resources can only produce a combination of these two products on and below the curve of the Product Possibilities Frontier. These combinations are ‘A’, ‘B’, and ‘D’

as depicted in the graph. The combination 'C' is out the production possibilities of this society. However, if a technological development affects some resources so that they could be more productive in producing for example the product Q_1 then this curve will change as follows:



As it is illustrated above, the production possibilities frontier has been shifted outwards and now the product combination C is possible due to technological change.

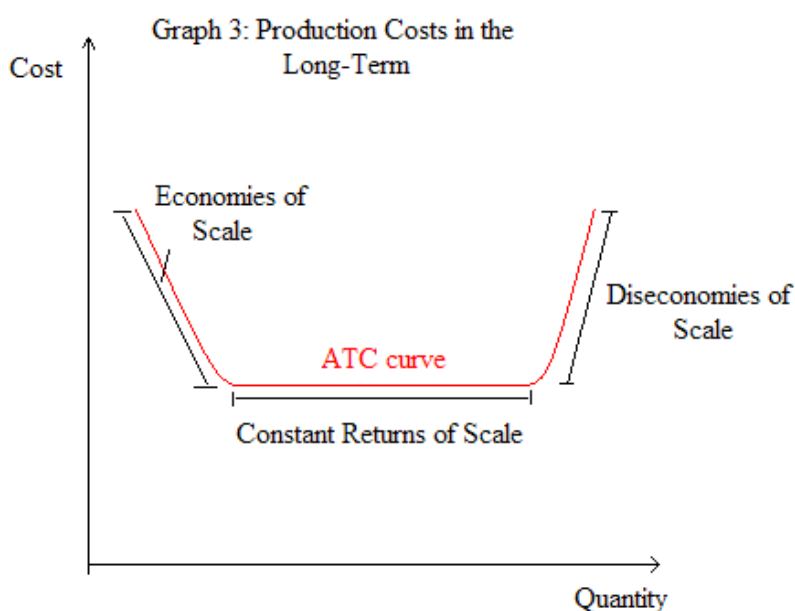
Another central concept that economic theory introduces is the opportunity cost (Mankiw and Taylor, 2006). This means that for every choice we make there is something else that has to be sacrificed. To put it differently, the opportunity cost of doing or buying something is the cost of losing what could have been done or bought instead. This core concept is very important in decision making and its scope is irrelevant whether the decisions concern the management of a household or the national defense system of an entire country. Therefore, whenever there is a cost decrease in something, what actually happens is that we have to give up less of 'something else' in order to get it.

Microeconomic Perspective

In order to start analyzing the meaning of production costs, a useful framework has to be drawn. Therefore, it would be useful to start with the most common to economics. According to economic textbooks, one of the basic concepts that a student has to become familiar with is the production factors. These are land,

labor, and capital. Interestingly, several economists consider entrepreneurship also as one factor of production (Baumol, 2002). However, this is one of the debates in economics. Many economists believe that entrepreneurship contributes a lot to successful production of goods and economic development and growth (Schumpeter, 1981; Baumol, 2002; 2007). Though, it should not be seen as similar to the other three factors (Blaug, 1997). Basically, the costs of acquiring and combining land, capital, and labor are the costs of producing a product. For this master thesis, the attention is on the capital.

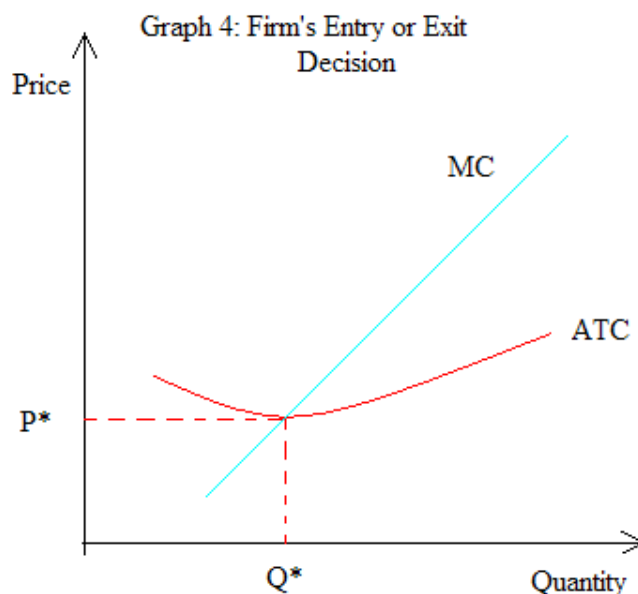
There are two major levels of economic analysis in relation to time. These are the short-term level and the long-term level. In the long-run, some issues like the nature of production costs are differentiated from the short-term. The costs are not distinguished in fixed and variable. Costs that are considered fixed in the short-run period, in the long-run can change. For example, if a recording studio pays a rent for a certain space, this is considered as a fixed cost in the short-run because it stays constant for at least some time. But after a year or more⁷⁸, the owner of the recording studio could be interested in expanding his/her studio by having bigger recording rooms or more rooms. So the rent will be probably higher, thus making it a variable cost. On the whole, in the long-run all costs are seen as variable (Graph 3).



⁷⁸ A short-run term is considered to be less than one year, so any time period above this limit is considered as long-term.

Depending on the size of the production, a firm can be experiencing economies or diseconomies of scale, or constant returns to scale. These terms characterize the relation between average total cost (ATC) and the output quantity. As shown in graph 3, if ATC is declining as the output increases, then we have economies of scale. This case often characterizes the production of some cultural products (Vogel, 2007). This is because the marginal costs are sometimes close to zero⁷⁹. So, as the output rises the ATC starts to decline (Shapiro and Varian, 1999). The opposite situation is labeled as diseconomies of scale. When there is no difference in the level of ATC as output level increases or decreases, then we have constant returns to scale.

In contrast to short-term decision making where the producer can decide to temporarily seize the production, in the long-run the producer decides whether to exit or not the market completely. In order to decide that, s/he considers all production costs. According to the economic textbooks, the decision depends on whether the price (P) of a unit of product is above or below the average total cost curve (ATC). If the price is above ($P > ATC$) the firm will continue its production in this market. In the case that a firm has to decide whether to enter or not a market this premise plays also an important role. If the price is below ($P < ATC$) the firm will exit the market (Graph 4).



⁷⁹ This refers to products like live performances where the cost of an additional consumer is negligible or to digitalized products where the cost of an additional copy is also very low.

Exit Condition: $P < P^*$ and Entry Condition: $P > P^*$

Another important feature is the difference between the ATC curve and the level of price (P). This difference represents the potential profits that the firm can realize in this market. Ceteris paribus, a decrease in ATC will raise the profitability of the firm. So, changes in production costs affect this profit margin as well. Summing up, what I would like to underline is the fact that this master thesis is mostly interested in the long-run perspective of a firm's production costs. However, the size of production costs plays an important role for the firm's survival and profitability in both time term periods; short-term and long-term. And an important component of these costs is the cost of the capital.

Creative and Entertainment Industries

First of all, it seems suitable here to briefly state what will be the meaning of "creative" industries in this thesis. According to Caves (2000: 1), these industries are those "...supplying goods and services that we broadly associate with cultural, artistic, or simply entertainment value". Some examples of this goods and services are books, films, the performing arts, and of course sound recordings (Caves, 2000). Another definition of what the term 'entertainment industries' means is provided by Vogel (2007). To begin with, entertainment, according to Vogel, is defined by the effect that has on people; that is a psychological state of satisfaction and happiness. Thus, the term 'entertainment industries' refers to those industries where their goods and services aim to activities that have as a purpose to bring people in this abovementioned psychological state, i.e. the outcome of these industries is the cause that creates this mental state of satisfaction and happiness. Two more common elements are also identifiable. The first one is that these industries share common practices for production organization, in technological terms, and second, that their outcomes or their sources of income are substitutable (Vogel, 2007). One more observation is interestingly insightful, when it comes to technological development. Vogel (2007) discusses how during the last hundred years, applications of technology have transformed things in the field of entertainment in levels previously belonging only to our imagination, or to levels not existed at all in our minds. Judging only from

this, someone could expect that the way we experience entertainment will be again totally different from now in another hundred years!

Distinguishing Features

These industries seem to have some features that distinguish them from other industries, such as the automobile or the agriculture industry. They appear to have some ‘economic properties’, as Caves (2000) refers to them, that do not share with other economic sectors. In this section some of these special features, useful for the purposes of this thesis, will be presented.

The first one is the “*nobody knows*” property. This is to state the fact that demand is uncertain for creative products that have never been produced before, i.e. the first music album of a new artist. The products of these industries have been characterized as experience goods, thus an adequate valuation of them before actually consuming them, is impossible⁸⁰. This puts great pressure on the production side, especially in industries like the record industry where demand for rapid change and freshly new acts is high. In these activities, production costs are considerable high. So, producers face a risky task since they do not know whether consumers will value the product significantly, at least up to the point to cover its production costs, or they will not place any noteworthy value on it. The risk is that the funds committed to this good will not be recouped. One thing that eases this uncomfortable situation is that production is being realized in stages (Caves, 2000). This gives the option to the producer to stop the procedure and to not commit any more funds to this product if s/he receives any negative messages related to the prospective demand of this creative good. However, any amount of money already spent in each stage is regarded as sunk⁸¹ cost, since it cannot be recovered. Another clearing point that Caves makes, is that this property refers to the organizational problem of symmetrical ignorance and not asymmetrical information. All parts involved in the production procedure of these goods share nearly the same amount and type of information concerning prospective demand.

Next to our description is a property labeled as the “*motley crew*” (Caves, 2000). This refers to the need of a combination of creative and humdrum inputs for

⁸⁰ This feature will be addressed in more detail in the following chapter.

⁸¹ The main difference between sunk costs and fixed costs is that the former cannot be recouped in any way.

the production of a creative product such as a movie, a concert, or a music album. These inputs have to be present and perform adequately, i.e. at least up to a minimum professional level, in order to have a successful outcome. Economists consider the production function of these industries to be multiplicative (Caves, 2000). The main difference from a traditional production function that requires some inputs of labor, land, or capital, is that the characteristic of substitutability between these inputs is less strong in a multiplicative production function. For example, if we want to record a sum of songs, i.e. an album, then it is most likely that we will have to combine the following inputs, some creative and some humdrum; a composer of the songs, a singer and music instrument performers, a music producer, at least one sound technician⁸², and some recording equipment. It is obvious to state that without a composer a song cannot be created, thus also recorded, and without a singer or the musicians to perform the music composition is evenly impossible to conclude to a decent recording. Moreover, if we have many sound technicians but none musician the production is not possible. It emanates that when more people are needed to work together, then the production procedure will be more complicated and possibly more costly as well.

Another property, that of “*infinite variety*” (Caves, 2000), is referring to the vertical and horizontal differentiation of the creative products that usually are a combination of them. Vertically differentiated are two, not identical, creative products (A and B) when, after consumption, consumers value them differently, i.e. they consider A to be better than B. This also means that if these products are offered in the same price, consumers will go for A instead of B. Horizontally differentiated are two products (again A and B) that are similar but not identical, like two books for cooking or two heavy metal albums. In terms of preference in this kind of differentiation, if these two products have the same price it is not clear which one will be preferred over the other from customers. Some will choose A, and others will pick B. The Long-Tail phenomenon has revealed how technology can influence differentiation in the level of products available to consumers. Thus, technological developments influence also the variety of products available to consumers.

Contract Theory

⁸² The importance and the different roles that these inputs have will be described later in this thesis. However, it is useful here to assume that each and every input is necessary for the realization of the album.

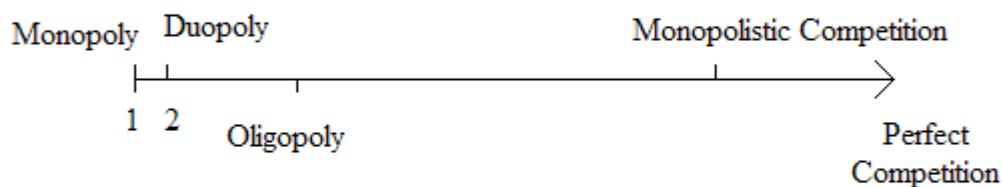
Another important characteristic of the creative industries is the irregular type of contracts between the different interest groups (Caves, 2000). Due to some of the properties described above, contracts in these industries are far from complete. However, high initial investments demand the presence of some kind of contractual agreements in order for the investments to be secured and provided. Thus, some of the alternatives that have been developed are the incentive, or the option contracts. An incentive contract means that the reward of different parties participating in the production should be linked to the value that these parties add to the production. An option contract refers to the allocation of the decision rights over the production procedure (Caves, 2000). This type of contract allows for a specific group of people or individuals to take the decision whether a production will be continued to the next level or will be seized and it is mainly done to avoid extra costs. These contracts are possible because production is realized in different stages. This allows for new feedback to be available for the prospective profitability of this product. Since costs in this production are considered to be sunk, the continuation of a production and the commitment of more funds to a project that seems not so profitable anymore could end up being economic disastrous. Of course, the implementation of this kind of contracts is not an easy thing. A feature that helps the carrying out of these contractual agreements is that the economic viability of these interest groups is based on a successful and repetitively interaction (Caves, 2000). Thus, reputation between the different parties is essential for a successful working continuance in this industry. This feature helps the industry to function under this contract regime.

Industrial Organization

Another useful theoretical tool for analyzing the creative industries is the literature of industrial organization. Vogel (2007) introduces the barriers to entry in this kind of industries. The order in which he presents them is also according to the importance that they have; these are capital, know-how, regulations, and price competition. As we see the amount of capital needed for someone just to be able to enter the market is, according to Vogel, the more crucial barrier to entry. This provides further support to the reasoning of this thesis.

The market structures that usually describe these industries are monopolistic competition and oligopoly⁸³. In general, an important aspect that differentiates any market structure is the level of competition in the market. One of the benefits of competition is that the prices of the products are driven towards to be equal with marginal cost. According to mainstream economic theory, the closer we are to perfect competition the closer we are to a social optimum. Therefore, *ceteris paribus*, a decrease in the production costs of an economic activity that also yields high profits for those already participating in this market would, at least theoretically, motivate more suppliers to enter the market, thus making it more competitive. If we can put the different market structures on a straight line representing the level of competition, as measured by the number of competing firms in a market, where at the left we will have no competition and while we go towards the right side the level of competition increases, then monopoly would be at the left side followed by duopoly, oligopoly, monopolistic competition and finally and the end right side would be perfect competition (Diagram 1).

Diagram 1: Market Structures



In addition, policy making aims at enhancing competition and “fixing” market imperfections. However, there is not only this “static” view where competition is

⁸³ Oligopoly is the market structure where there are few suppliers of similar or identical products and monopolistic competition is where we have many firms that sell similar products, which are close substitutes but not identical. Other market structures are monopoly, duopoly, and perfect competition.

regarded only as an *end state* of rest in the rivalry between the sellers in a market. Another interesting approach is to regard competition under a dynamic view. That is as a *process* of rivalry between these sellers. This would offer many other interesting insights as well (Blaug, 1997; 2001). It is under this view that production costs become even more important.

If we now regard competition as a process, meaning what Blaug (1997:594) called “*the Austrian view of competition*”, production costs represent one of the many things that a firm can improve so it will become more competitive. For example if a producer finds a way to reduce his/her production costs, then it will be able to offer the product at a lower price and being more price competitive, hence, extending his/her market share and/or making higher profits, at least for a short period of time. This point becomes even more apparent in those economic activities where technological progress and innovation plays an important role in their growth mechanism. For example, looking at the record industry we can identify one such activity where technological progress has previously offered competitive advantages due to lowering costs of production. According to Vogel (2007:230), it was in the 1950’s where “[n]ew low-cost recording equipment made it possible for many small independent companies to spring up in competition with RCA, Columbia, and Decca—the long established majors of the time.”

Another important theoretical tool that will be helpful to highlight the importance of production costs is the Structuralist-Evolutionary (S-E) theory. This is a term we find in Lipsey et al. (2005:25) and represents their “*collective term for the body of theories developed explicitly to analyse long-term growth using dynamic evolutionary concepts*”. In this perspective, technological innovations are used as an important tool “*by which firms strive to gain competitive advantages*” (Lipsey et. al., 2005:35). It is crucial to note here that this theory shares the same views for competition as a process and not as an end-state of rest in the rivalry between the different suppliers in a market. The S-E theory has several points of “disagreement” with mainstream economics that are very well described in the abovementioned book of Lipsey et al. (2005). However, this body of knowledge offers also a very useful perspective on technological progress, at least for the purposes of this master thesis.

Since digitalization is a main feature of this essay, and digitalization is a prominent technological advancement of the last decades (Towse et al. 2008), then some aspects of the S-E provide an additional useful framework for the study of production costs in an industry “sensitive” to technological improvements, such as the

record industry. An important feature of the S-E theory is technological innovation. From Lipsey et al. (2005) we get an interesting distinction between three stages of technological development. The first stage is the invention of a new. In this stage we have the development of the “technical” part. The implementation of this new invention to a productive procedure is the second stage which is labeled as innovation. The innovation is often introduced by visionary entrepreneurs who manage to acknowledge an opportunity that this invention has created. The third stage is the diffusion of this innovation, i.e. when many agents in the market adopt the innovation in their productive procedure. The introduction of a new technology can result a process of creative destruction (Schumpeter, 1942; Lipsey et al., 2005). And indeed the record industry shows some signs of creative destruction (Handke, 2006) since now the combined forces of technologies of digitalization, compression, internet, and broadband connections has resulted great turbulence in the business of recorded music.

Back to the structures of creative industries, the movie and recorded music industries are classified as oligopolies, while the industries of books and performing arts are seen as monopolistic competition. More precisely, companies in the record industry market have been characterized as multi-product oligopolistic firms. These industry structures provide however, powerful tools for the firms to use when it comes to pricing practices of their products. Some of them include price discrimination and bundling (Hoskins et al., 2004). Price discrimination refers to a pricing strategy where firms sell the same product in different prices to different consumers (Mankiw and Taylor, 2006). One example of this is the price difference between the more expensive hardcover copy of a book which is released primer to the cheaper paperback copy of the same book. Those who are willing to buy the book now and cannot wait until the paperback is released, they will have to pay the higher price. Bundling refers to this business practice where two or more products are bundled together. Sometimes these products are offered also separately. This is called ‘mix bundling’. There is also ‘pure bundling’ where these products are not sold separately but only in a package (Hoskins et al., 2004). However, for these price strategies, it is vital that the reservation price of the consumers can be evaluated. This means how much consumers are willing to pay for any of these products. But, as we have seen this is a particularly difficult task in this industries closely related to the ‘nobody knows’ property as well (Caves, 2000).

But how does the main focus of this master thesis, which is on the costs of expression, connect to all these? The one and only claim that I can state is that

digitalization has played a crucial role in decreasing the costs of expression in the record industry so the apparent lack of appropriability due to piracy seems to be constant with falling production costs. The only premise is that the agents will adapt to these to new technologies; the infamous saying of “adapt or die”.

Another important point that Caves (2000) makes, and it is relevant to this thesis, is that one of the factors that determine the organization of the production of these creative goods is technology. Technology influences the size of fixed costs or whether a firm can experience economies of scale or not.

Media and Network Features

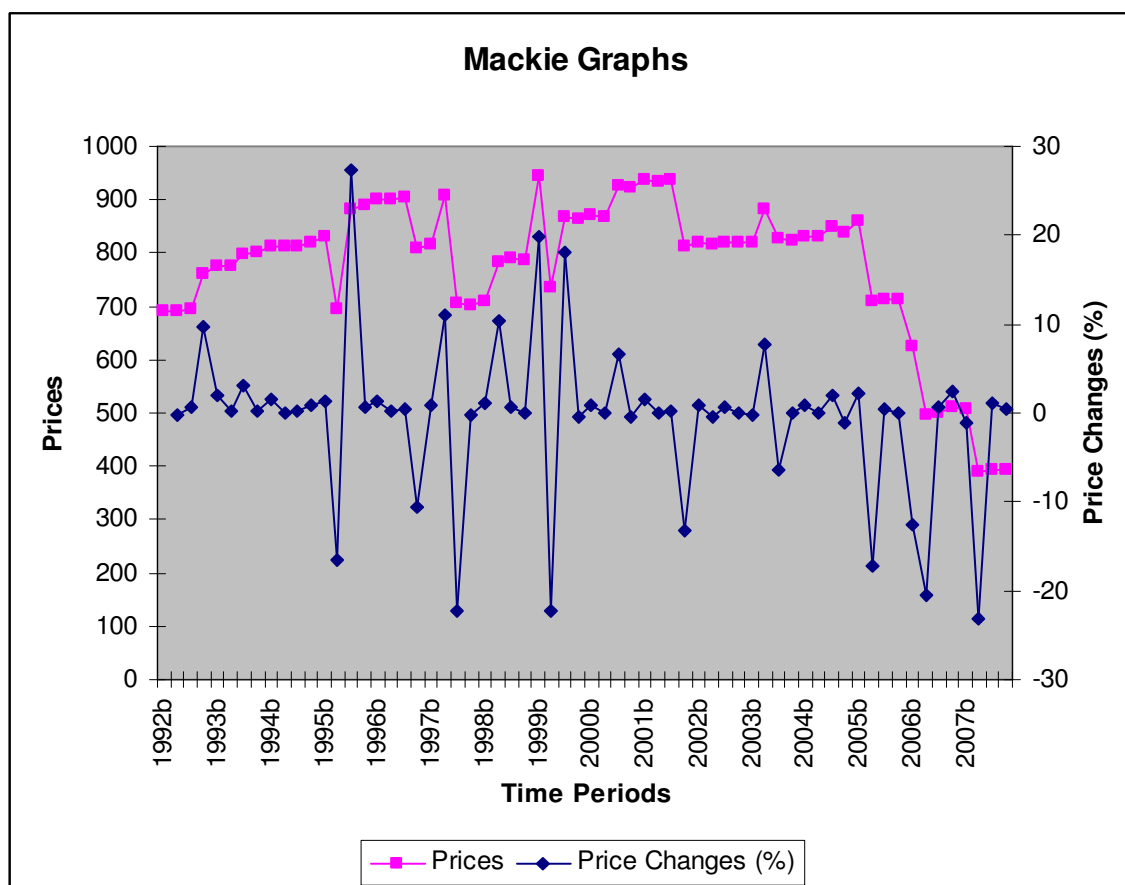
In Vogel’s book (2007) we come across seven ‘laws of media’ as he calls them. The most relevant to our framework are the last three. The first one is the law of “*Entropy/Fragmentation*” and states that when a successful media form is introduced it quickly breaks up to many somewhat different things, such as the many different genres in popular music. The second one is tagged as the “*Exponentiality*” law and refers to the distribution of incomes. By this law, few things such as songs, movies, and book titles are responsible for the bigger share of revenues or profits. The hard rule is about 80% to 20%. This means that 20% of the content, i.e. movies, albums, makes for 80% of the revenues or profits. Anderson (2006) points to Pareto for the fatherhood of this rule that seems to be widespread in our society. This is a very prevalent element in the record industries’ revenues as well, though according to Vogel (2007) the ratio is more 98:2 than 80:20. In addition, in terms of artist’s income a similar distribution is observed⁸⁴. The last law is that of “*Spread*” and it is about the fact that content will seek to reach every possible edge of the distribution network. As nicely put by Vogel (2007:41) this law is about “*content seeking maximum distribution and distribution seeking maximum content*”. These features underline the fact that in entertainment and media industries distribution is also very essential, if not equally important, with content. This has become an even more vital feature now that the Internet has provided new and powerful means of distribution for digitalized content products.

⁸⁴ This refers to the ‘Superstar’ phenomenon.

Appendix B

Mackie Console

The first set of data that I will analyse belongs to the analogue group and refers to the Mackie console. Mackie is a 16-channell model. The data for this console start from the second quarter of 1992 and the amount up to 64 observations. There was only one upgrade in this data set. This means that there are two different models make up the data. The first one is with observations from the second quarter of 1992 to the second quartet of 1996 is the 'CR1604' and from the third quarter of 1996 until the end, i.e. first quarter of 2008, is the model '1604VLZ'. There are no major differences in these two models. This is also apparent in their price, which is almost the same. In the following graph the prices and the monthly price changes⁸⁵ (in %) are depicted:

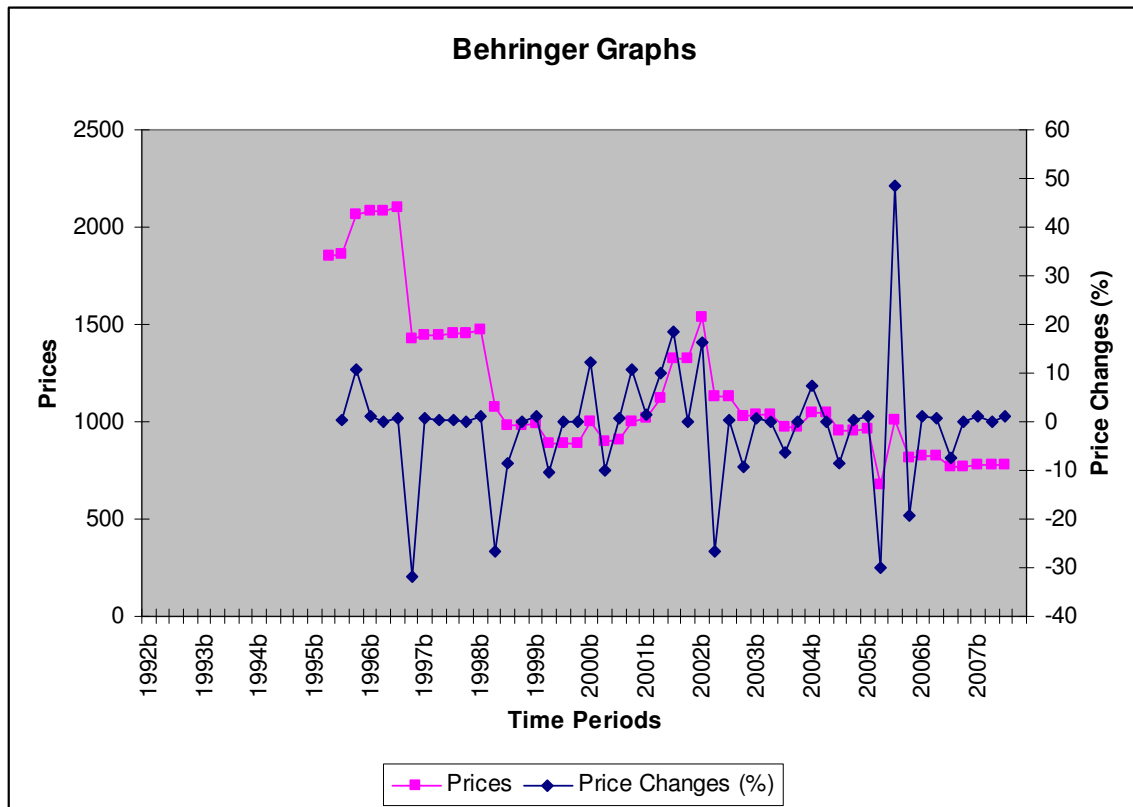


⁸⁵ It means the first differences.

In this graph, two main periods can be distinguished. The first one starts from the beginning (1992b) and ends around 2006 (second quarter). In this period we see many price fluctuations but no significant increase or decrease in the prices. The second period starts from the third quarter of 2006 and lasts until the end of this data set in 2008a. It is clear that in this period there is a downward trend in the price of this console. If we also compare the sum of the first differences between these two periods we find that in the first period there was an additional sum of UK£ 23, or 0.4 % increase on average in the price; in the second period there was a sum of UK£ 320 subtracted from the price, or a 6.6 % decrease in the price on average. In fact, from 1992b and until today there was a 43% decrease in the price of this console. Thus, by keeping the quality of this console in the same levels, this price decrease would suggest a sharp decline in its demand. However, this seeming decline in its demand has taken place only in the last two years and not from the beginning of this data set.

Behringer Console

Continuing our data analysis, the second data set are for the Behringer console. This is a 24-channel console and in the data there are 50 observations for this tool of music production. Three models make up for the data set and similar to the Mackie console, there are no major differences between them, a fact, again, also observable in their price differences. These are the MX8000 model, the MX8000A, and the MX9000. For this dataset also a simple set of descriptive statistics was used to analyze them. A similar graph to that of the previous section is presented here, but it shows a different story:



In this graph we can detect three phases of differentiation in the price. The first one starting at 1995c and finishes at 1998b shows a decline in the price. Again by using the first differences we see that this decline sum up to near UK£ 384, or as an average monthly decrease of 1.4 %. The second period is between 1998c and 2002b where we firstly observe a decline and then an increase of the price. It looks that the price fluctuations in this period seem to cancel out each other. However, the outcome is an increase of UK£ 67 in the price of this console, or a 0.9 % average increase per month. The third period starting at 2002c and stops at 2007d suggests a decline in the price and indeed there is a deduction of a sum that amounts up to UK£ 755, or a 2% monthly decrease in the price. An overall estimation of the price for the whole time period reveals a sharp decline of nearly 58%. Thus, these results also suggest a decline in the demand for this analogue console.

Cubase Software

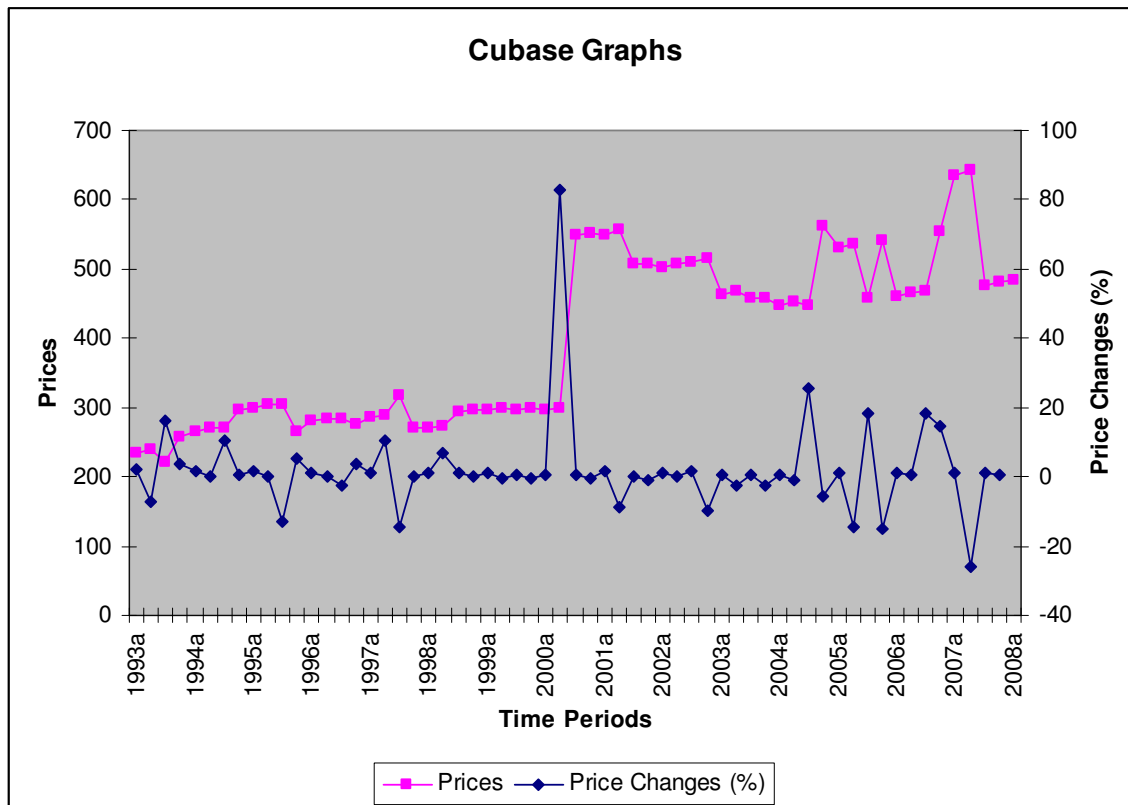
The representative product for the digital technology is the series of a software brand. That is the Cubase series by Steinberg. Steinberg was one of the first companies that created software applications and programs for music production.

Their first program was for the Atari computer technology and the for the Mac and PC computer technology. One of their most well known products is the Cubase. However, in this data set only the versions for the PC technology are collected. It seems useful here to describe its long history from the 1990.

The first version of Cubase was a follow up of another software program called 'Pro24'. The main use of the first Cubase version was to mimic the editing and recording operations of a 64-track tape recorder for midi. No audio recording or editing was possible in that version. The first upgrade of this program, i.e. version 1.5, had several additional features. One of them was the introduction of a 'Dynamic MIDI Manager'. This enabled Cubase to perform an automated mixdown of the midi tracks that had previously edited and also more effective MIDI data manipulation. Another useful feature was that it was intended to mimic the operations of a multi-track mixing desk (console). The second and third version of Cubase did not offer any significant upgrade. However, around 1996, the PC version of Cubase borrowed a technology that developed firstly for the Mac versions of this software. That technology was named VST. These acronyms stand for Virtual Studio Technology. In this version there was a huge development available. For the first time it was now possible to record and edit a 16-bit audio format, apart from the previous midi format. Also, some of the components of the fourth category were also incorporated in this version. Those were a parametric equalizer and four virtual effects⁸⁶. Thus, for the first time we have a combination of the equipment from three of our different categories. These are the tape recorder, the mixing console and the gear for sound quality improving and special effects. The subsequent versions enriched the number of virtual tracks available and add more sound quality improving virtual gear as well as special virtual effects that mimic the existing ones. The next version that upgraded the VST version of Cubase was the SX series. The major addition in these versions was the improvement of the audio sound quality and the improvement of some other technical malfunctions. The last upgrade of this series was the releasing of the version 4 that was the successor of the SX series. Nowadays, the Cubase software offers a full production package that it is used in many professional recordings, but in many amateur productions as well.

For this data there are 61 observations, from years 1993 to 2008. The analysis of this data set is similar to the previous two data sets. So, we start from a graph:

⁸⁶ Those effects were reverb, chorus, autopanner, and stereo delay.



As we see there are two different periods that we can detect in this graph. The first one is from 1993a to 2000b and presents no significant fluctuation. Though, the net effect is around UK£ 66, or 1 % of monthly rank, plus in the previous price level. In the second period 2000c to 2008a, there is a net increase of 2.7 % in a monthly base or a sum of UK£ 183.

Appendix C

Coding

VARIABLES	CODING
1. Income	1= Primary 2=Secondary 3=Negligible 4=None
2. Time	1= Daily Basis 2=3-5 times/week 3=1-2 times/week 4=5-10 times/month 5=1-4 times/month 6=Less than 10 times/year
3. Cost Share	1= Biggest part 2=Significant but not the biggest, 3=Moderate part 4=Negligible part
4. Cost Decrease	1= Due to technological developments, 2=Not due to tech.developments 3=They have not changed much 4=They have NOT changed
5. Digitalization	1=Highly Possible to Decrease, 2=Possible to Decrease 3=No impact at all 4=Possible to Increase 5=Highly Possible to Increase 6=Do not know/cannot estimate
6. Capital Hardware	1=Strongly Agree 2=Agree 3=Neither Agree, nor Disagree, 4=Disagree 5=Strongly Disagree
7. Capital Software	1=Strongly Agree 2=Agree 3=Neither Agree, nor Disagree, 4=Disagree 5=Strongly Disagree
8. Labour Performers	1=Strongly Agree 2=Agree 3=Neither Agree, nor Disagree, 4=Disagree 5=Strongly Disagree

9. Labour Sound_Eng	1=Strongly Agree 2=Agree 3=Neither Agree, nor Disagree, 4=Disagree 5=Strongly Disagree
10.Rec_Sessions_Funding	1=Only Record Labels 2=Also Creators
11. Personal Savings	1=First 2=Second 3=Third
12. Financial Help	1=First 2=Second 3=Third
13. Bank Products	1=First 2=Second 3=Third
14. Record Label Fund Artistic Freedom	1=Highly Possible to Constrain, 2=Possible to Constrain 3=No influence at all 4=Possible to Enhance 5=Highly Possible to Enhance
15. Creator Artistic Freedom	1=Highly Possible to Constrain 2=Possible to Constrain 3=No influence at all 4=Possible to Enhance 5=Highly Possible to Enhance
16. Willingness to self finance	1=All of the amount 2=Half of the amount 3=Small part of the amount 4=None part of the amount 5=Do not know/answer
17. Music Relation	1=Professional Artist/Musician, 2=Amateur Artists/Musician, 3=Professional relation to music, 4=Amateur relation to music 5=None of the above
18. Age Groups	1=18-25 2=26-35 3=36-45 4=46-64

20. Gender	1=Male 2=Female
21. Main Profession	1=Musician 2=Music Producer 3=Sound eng/tech 4=Irrelevant
22. Experience	1=Musician 2=Music Producer 3=Sound eng./tech 4=Listener

Questionnaire

Music Production and Technology (GR)





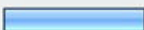
1. Έχετε καθόλου εμπειρία από κάποια μουσική ηχογράφιση Μπορείτε να επιλέξετε παραπάνω από μια απαντήσεις (Do you have any kind of experience from a sound recording session? You may mark several options)			
		Response Percent	Response Count
Ναι, συμμετείχα ως Καλλιτέχνης/Μουσικός. (Yes, I have participated as a musician/performer)		75.9%	63
Ναι, συμμετείχα ως παραγωγός. (Yes, I have participated as a producer)		54.2%	45
Ναι, συμμετείχα ως ηχολήπτης. (Yes, I have participated as a sound engineer/technician)		49.4%	41
Ναι, συμμετείχα ως απλώς ακροατής/θεατής. (Yes, I have participated as a listener/visitor)		34.9%	29
Όχι, δεν έχω καμία εμπειρία από ηχογραφήσεις. (No, I have no experience from a recording session)		0.0%	0
answered question			83
skipped question			0




2. Ποιος ήταν ο σκοπός αυτής της ηχογράφησης Μπορείτε να επιλέξετε παραπάνω από μία απαντήσεις(The purpose of these recordings was...)





		Response Percent	Response Count
Για προσωπική χρήση μόνο. (For personal use only)		30.0%	6
Για προώθηση μόνο (μέσω διαδικτύου, demo, κτλ.). (For promotional use only (e.g. via internet, demo etc.))		25.0%	5
Για εμπορική χρήση μόνο. (For commercial use.)		75.0%	15
Άλλη χρήση (παρακαλώ διευκρινίστε)-Other (please specify)			1
answered question			20
skipped question			63

3. Αντλείτε κάποιο χρηματικό εισόδημα από την ασχολία σας με την μουσική παραγωγή(Do you derive any income from your activities in music production?)

		Response Percent	Response Count
Ναι, είναι η κύρια πηγή εισοδήματός μου (Yes, it is my major source of income)		42.9%	9
Ναι, αλλά είναι δευτερεύουσα πηγή εισοδήματος (Yes, but it is my secondary source of income)		4.8%	1
Ναι, αλλά είναι μια μικρή, σχεδόν αμελητέα, πηγή εισοδήματος. Άπλα δεν επιβαρύνονται οικονομικά. (Yes, but it is only a small, almost negligible, source of income.)		19.0%	4
Όχι, δεν αντλώ κανένα χρηματικό εισόδημα (No, I do not derive any income from my activities in music production.)		33.3%	7
answered question			21
skipped question			62

4. Πόσο χρόνο αφιερώνεται στην ενασχόληση με την μουσική παραγωγή (How much from your time do you devote to your activities in music production?)			
		Response Percent	Response Count
Ασχολούμαι με την μουσική παραγωγή σε καθημερινή βάση (I deal with music production activities in a daily basis.)		52.4%	11
Ασχολούμαι με την μουσική παραγωγή 3-5 φορές την εβδομάδα. (I deal with music production activities 3-5 days a week.)		4.8%	1
Ασχολούμαι με την μουσική παραγωγή μόνο τα Σαββατοκύριακα/2 φορές την εβδομάδα. (I deal with music production activities only on weekends/2 days.)		4.8%	1
Εξαρτάται από τις άλλες μου ασχολίες, αλλά τουλάχιστον 5-10 φορές το μήνα. (It depends on my other activities, but at least around 5-10 times per month.)		0.0%	0
Εξαρτάται από τις άλλες μου ασχολίες. Περίπου 1-4 φορές το μήνα. (It depends on my other activities. Around 1-4 times per month.)		14.3%	3
Εξαρτάται από τις άλλες μου ασχολίες. Λιγότερο από 10 φορές το χρόνο. (It depends on my other activities. Less than 10 times per year.)		23.8%	5
	Άλλο (παρακαλώ διευκρινίστε)-Other (please specify)		0
	answered question		21
	skipped question		62







5. Ποιος ήταν ο σκοπός αυτής της ηχογράφησης Μπορείτε να επιλέξετε παραπάνω από μία απαντήσεις(The purpose of these recordings was...)			
		Response Percent	Response Count
Για προσωπική χρήση μόνο. (For personal use only)		55.6%	35
Για προώθηση μόνο (μέσω διαδικτύου, demo, κτλ.). (For promotional use only (e.g. via internet, demo etc.))		58.7%	37
Για εμπορική χρήση μόνο. (For commercial use.)		66.7%	42
	Άλλη χρήση (παρακαλώ διευκρινίστε)-Other (please specify)		2
		<i>answered question</i>	63
		<i>skipped question</i>	20

6. Έχετε κάποιες επίσημες μουσικές κυκλοφορίες ή συμμετοχές (Do you have any official music releases?)			
		Response Percent	Response Count
Ένα τραγούδι/ λίγα τραγούδια. (One song/ few songs)		12.9%	8
Μέχρι τρεις δίσκους (1-3). (Up to three full length albums (1-3))		12.9%	8
Παραπάνω από τρεις δίσκους(4-4+). (Four or more full length albums (4+))		54.8%	34
Καμία (None)		19.4%	12
		<i>answered question</i>	62
		<i>skipped question</i>	21

7. Έχετε ή είχατε ποτέ κάποιο συμβόλαιο με δισκογραφική εταιρεία (Do you have, or did you have in the past, any contract deal with a record label?)			
		Response Percent	Response Count
Nαι (Yes)		38.7%	24
Όχι (No)		61.3%	38
<i>answered question</i>			62
<i>skipped question</i>			21

8. Αντλείτε κάποιο χρηματικό εισόδημα από την ασχολία σας με την μουσική παραγωγή (Do you derive any income from your activities in music production?)			
		Response Percent	Response Count
Ναι, είναι η κύρια πηγή εισοδήματός μου (Yes, it is my major source of income)		30.6%	19
Ναι, αλλά είναι δευτερεύουσα πηγή εισοδήματος (Yes, but it is my secondary source of income)		25.8%	16
Ναι, αλλά είναι μια μικρή, σχεδόν αμελητέα, πηγή εισοδήματος. Άπλα δεν επιβαρύνομαι οικονομικά. (Yes, but it is only a small, almost negligible, source of income.)		19.4%	12
Όχι, δεν αντλώ κανένα χρηματικό εισόδημα (No, I do not derive any income from my activities in music production.)		24.2%	15
<i>answered question</i>			62
<i>skipped question</i>			21







9. Πόσο χρόνο αφιερώνεται στην ενασχόληση με την μουσική παραγωγή (How much from your time do you devote to your activities in music production?)

		Response Percent	Response Count
<p>Ασχολούμαι με την μουσική παραγωγή σε καθημερινή βάση (I deal with music production activities in a daily basis.)</p> 		40.3%	25
<p>Ασχολούμαι με την μουσική παραγωγή 3-5 φορές την εβδομάδα (I deal with music production activities 3-5 days a week.)</p> 		19.4%	12
<p>Ασχολούμαι με την μουσική παραγωγή μόνο τα Σαββατοκύριακα/2 φορές την εβδομάδα. (I deal with music production activities only on weekends/2 days.)</p> 		1.6%	1
<p>Εξαρτάται από τις άλλες μου ασχολίες, αλλά τουλάχιστον 5-10 φορές το μήνα. (It depends on my other activities, but at least around 5-10 times per month.)</p> 		12.9%	8
<p>Εξαρτάται από τις άλλες μου ασχολίες. Περίπου 1-4 φορές το μήνα. (It depends on my other activities. Around 1-4 times per month.)</p> 		12.9%	8
<p>Εξαρτάται από τις άλλες μου ασχολίες. Λιγότερο από 10 φορές το χρόνο. (It depends on my other activities. Less than 10 times per year.)</p> 		12.9%	8
	Άλλο (παρακαλώ διευκρινίστε)-Other (please specify)		1
	answered question		62
	skipped question		21

10. Κατά την γνώμη σας πόσο μεγάλο είναι το μερίδιο του κόστους των ηχογραφήσεων και της επεξεργασίας τουζμίξη, mastering κ.α.), συγκριτικά με το συνολικό κόστος μιας μουσικής παραγωγής(In your opinion, how big is the share of recording and sound processing costs in the overall costs of a music production?)			
		Response Percent	Response Count
Αποτελεί το μεγαλύτερο κομμάτι του συνολικού κόστους μιας μουσικής παραγωγής. (It makes up for the biggest part of the overall costs of a music production)		37.8%	31
Αποτελεί ένα σημαντικό κομμάτι αλλά όχι το μεγαλύτερο (It is a significant part but not the biggest.)		48.8%	40
Αποτελεί ένα μέτριο κομμάτι του συνολικού κόστους. (It is only a moderate part of the overall costs.)		11.0%	9
Αποτελεί ένα μικρό, σχεδόν αμελητέο, κομμάτι. (It is a small, almost negligible, part.)		2.4%	2
Άλλο (παρακαλώ διευκρινίστε)-Other (please specify)			2
answered question			82
skipped question			1

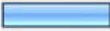
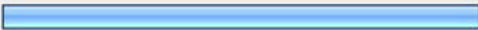
11. Κατά την γνώμη σας το κόστος των ηχογραφήσεων και της επεξεργασίας(μίξη, mastering κ.α.) μιας μουσικής παραγωγής έχει αλλάξει τα τελευταία 10 χρόνια; (In your opinion, do you believe that the costs of the recording and sound processing sessions of a music production have changed the last 10 years?)			
		Response Percent	Response Count
Ναι, έχει αλλάξει αρκετά κυρίως λόγω τεχνολογικής ανάπτυξης π.χ. ανάπτυξη αναλογικής ή ψηφιακής τεχνολογίας. (Yes, they have changed a lot due to technological developments, i.e. developments in analogue or digital technology.)		82.7%	67
Ναι, έχει αλλάξει αρκετά λόγω άλλων παραγόντων, όχι λόγω κάποιας τεχνολογικής ανάπτυξης. (Yes, they have changed a lot due to things other than technological developments.)		8.6%	7
Ναι, έχει αλλάξει αλλά όχι πολύ. (Yes, they have changed but not much.)		7.4%	6
Όχι, έχει μείνει σταθερό. (No, they have remained constant.)		1.2%	1
Άλλο (παρακαλώ διευκρινίστε)-Other (please specify)			3
answered question			81
skipped question			2

12. Θεωρείται πως η ψηφιοποίηση και οι διάφορες εφαρμογές software (Cubase, ProTools, Nuendo, Cakewalk, κ.α.) έχουν επηρεάσει καθόλου το κόστος των ηχογραφήσεων και της επεξεργασίαζμίξη, mastering κ.α.) μιας μουσικής παραγωγής που οι ακροατές/καταναλωτές θα είναι πρόθυμοι να αγοράσουν. (Did the digital technology and software applications (Cubase, ProTools, Nuendo, Cakewalk, etc.) have any impact in the costs of the recording and sound processing sessions (mix, mastering, etc.) of a music production that consumers will be willing to buy?)

		Response Percent	Response Count
<p>Ναι, η ψηφιοποίηση και οι διάφορες εφαρμογές software έχουν ΜΕΙΩΣΕΙ αυτό το κόστος σε ΣΗΜΑΝΤΙΚΟ βαθμό. (Yes, digital technology and software applications have Decreased these costs SIGNIFICANTLY.)</p> 		56.6%	47
<p>Ναι, η ψηφιοποίηση και οι διάφορες εφαρμογές software έχουν ΜΕΙΩΣΕΙ αυτό το κόστος σε ΜΕΤΡΙΟ βαθμό (Yes, digital technology and software applications have Decreased these costs MODERATELY.)</p> 		28.9%	24
<p>Όχι, η ψηφιοποίηση και οι διάφορες εφαρμογές software δεν έχουν επηρεάσει καθόλου αυτό το κόστος (No, digital technology and software applications did not have any kind of impact in these costs.)</p> 		4.8%	4
<p>Ναι, η ψηφιοποίηση και οι διάφορες εφαρμογές software έχουν ΑΥΞΗΣΕΙ αυτό το κόστος σε ΜΕΤΡΙΟ βαθμό (Yes, digital technology and software applications have Increased these costs MODERATELY.)</p> 		2.4%	2
<p>Ναι, η ψηφιοποίηση και οι διάφορες εφαρμογές software έχουν ΑΥΞΗΣΕΙ αυτό το κόστος σε ΣΗΜΑΝΤΙΚΟ βαθμό. (Yes, digital technology and software applications have Increased these costs SIGNIFICANTLY.)</p> 		1.2%	1
<p>Δεν ξέρω/Δεν μπορώ να υπολογίσω. (I do not know/I cannot estimate.)</p> 		6.0%	5
<p>Άλλο (παρακαλώ διευκρινίστε)-Other (please specify)</p>			0
<p>answered question</p>			83
<p>skipped question</p>			0

13. Που πιστεύεται ότι οφείλεται αυτή η μείωση τους κόστους των ηχογραφήσεων και της επεξεργασίας (μίξη, mastering κ.α.) μιας μουσικής παραγωγής που οι ακροατές/καταναλωτές θα είναι πρόθυμοι να αγοράσουν; (What was the cause of this cost decrease in the costs of the recording and sound processing sessions (mix, mastering, etc.) of a music production that consumers will be willing to buy?)							
	Συμφωνώ Απολύτως (Strongly Agree)	Συμφωνώ (Agree)	Ούτε Συμφωνώ, ούτε Διαφωνώ (Neither Agree, nor Disagree)	Διαφωνώ (Disagree)	Διαφωνώ Απολύτως (Strongly Disagree)	Rating Average	Response Count
Οφείλεται στη μείωση του κόστους ενοικίασης/αγοράς του αναγκαίου εξοπλισμού ηχογράφησης μιας μουσικής παραγωγής (κονσόλες, μικρόφωνα κ.α.). (It was a decrease in the cost of hiring/acquiring the HARDWARE recording equipment needed for the recording and sound processing sessions (mix, mastering, etc).)	23.1% (15)	38.5% (25)	24.6% (16)	12.3% (8)	1.5% (1)	3.69	65
Οφείλεται στη μείωση του κόστους ενοικίασης/αγοράς του αναγκαίου software εξοπλισμού ηχογράφησης μιας μουσικής παραγωγής (Cubase, ProTools, Nuendo, Cakewalk, κ.α.). (It was a decrease in the cost of hiring/acquiring the SOFTWARE recording equipment needed for the recording and sound processing sessions (mix, mastering, etc).)	31.3% (20)	45.3% (29)	15.6% (10)	7.8% (5)	0.0% (0)	4.00	64
Οφείλεται στη μείωση της διάρκειας των ηχογραφήσεων. (It was a decrease in the length of the recording sessions.)	12.5% (8)	31.3% (20)	26.6% (17)	23.4% (15)	6.3% (4)	3.20	64
Οφείλεται στη μείωση της διάρκειας των διαδικασιών της επεξεργασίας, μίξης και master. (It was a decrease in the length of process, mixing, and mastering sessions.)	14.5% (9)	40.3% (25)	21.0% (13)	19.4% (12)	4.8% (3)	3.40	62
Άλλο (παρακαλώ διευκρινίστε)-Other (please specify)							2
answered question							70
skipped question							13






14. Ποιος μπορεί να προσφέρει το αναγκαίο χρηματικό ποσό για τις ηχογραφήσεις και την επεξεργασία (mix, mastering κ.α.) μιας μουσικής παραγωγής που οι ακροατές/καταναλωτές θα είναι πρόθυμοι να αγοράσουν, (Who can provide the funds for the recording sessions and their process (mix, mastering, etc.) of a music production that consumers will be willing to buy?)

		Response Percent	Response Count
Μόνο οι δισκογραφικές εταιρείες μπορούν να προσφέρουν το αναγκαίο χρηματικό ποσό. (Only record labels can provide these funds.)		18.1%	15
Οι δημιουργοί (δηλαδή οι καλλιτέχνες/μουσικοί) έχουν στην διάθεσή τους και άλλους τρόπους για να χρηματοδοτήσουν αυτό το κομμάτι της μουσικής τους παραγωγής, εκτός από το να υπογράψουν κάποιο συμβόλαιο με μια δισκογραφική εταιρεία. (Creators have also other ways to finance this part of their music production, apart from signing a contract with a record label.)		81.9%	68
		Άλλο (παρακαλώ διευκρινίστε)-Other (please specify)	3
		<i>answered question</i>	83
		<i>skipped question</i>	0




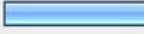
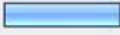
15. Παρακαλώ κατατάξτε τους εναλλακτικούς τρόπους που έχουν οι δημιουργοί στην διάθεσή τους για να χρηματοδοτήσουν τις ηχογραφήσεις και την επεξεργασία τους(μίξη, mastering κτλ.). Ως "1ο" κατατάξτε τον πιθανότερο τρόπο και ως"3ο" τον λιγότερο πιθανό. (Please rank the alternative ways that creators have in their disposal for financing their recording and sound processing sessions (mix, mastering etc.) First, is the most probable and third is the last probable.)

	1ο	2ο	3ο	Rating Average	Response Count
Οι δημιουργοί έχουν την δυνατότητα να χρηματοδοτήσουν αυτό το κομμάτι από τις προσωπικές τους αποταμιεύσεις. (Creators can provide the funds for these parts through their personal savings.)	73.4% (47)	20.3% (13)	6.3% (4)	1.33	64
Οι δημιουργοί έχουν την δυνατότητα να χρηματοδοτήσουν αυτό το κομμάτι λαμβάνοντας κάποια οικονομική βοήθεια από την οικογένειά τους ή το φιλικό τους περιβάλλον. (Creators can provide the funds for these parts through financial help from family, relatives, or friends.)	19.7% (12)	55.7% (34)	24.6% (15)	2.05	61
Οι δημιουργοί έχουν την δυνατότητα να χρηματοδοτήσουν αυτό το κομμάτι μέσω τραπεζικών προϊόντων (πιστωτικές κάρτες, δάνεια ή άλλα προϊόντα) (Creators can provide the funds for these parts through financial products from banks (credit cards or loans).)	11.1% (7)	23.8% (15)	65.1% (41)	2.54	63
Άλλο (παρακαλώ διευκρινίστε)-Other (please specify)					2
answered question					68
skipped question					15

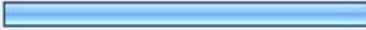




16. Κατά την γνώμη σας το γεγονός ότι μια δισκογραφική εταιρεία προσφέρει το αναγκαίο χρηματικό ποσό για την ηχογράφηση και την επεξεργασία (μίξη, mastering κτλ.) μιας μουσικής παραγωγής επηρεάζει καθόλου την καλλιτεχνική ελευθερία ενός δημιουργού; (In your personal experience, does the fact that a record label will provide the funds for the recording and sound processing sessions (mix, mastering, etc.) influence the artistic freedom of a creator?)


	Response Percent	Response Count
<p>Ναι, είναι ΠΟΛΥ ΠΙΘΑΝΟ ότι αυτό το γεγονός έχει ΠΕΡΙΟΡΙΣΕΙ την καλλιτεχνική ελευθερία ενός δημιουργού. (Yes, it is HIGHLY POSSIBLE that this fact has CONSTRAINED the artistic freedom of the creator.)</p> 	37.3%	31
<p>Ναι, είναι ΠΙΘΑΝΟ ότι αυτό το γεγονός έχει ΠΕΡΙΟΡΙΣΕΙ την καλλιτεχνική ελευθερία ενός δημιουργού. (Yes, it is POSSIBLE that this fact has CONSTRAINED the artistic freedom of the creator.)</p> 	45.8%	38
<p>Όχι, αυτό το γεγονός δεν έχει επηρεάσει καθόλου την καλλιτεχνική ελευθερία ενός δημιουργού. (No, it will not influence the artistic freedom of the creator.)</p> 	10.8%	9
<p>Ναι, είναι ΠΙΘΑΝΟ ότι αυτό το γεγονός έχει ΕΝΙΣΧΥΣΕΙ την καλλιτεχνική ελευθερία ενός δημιουργού. (Yes, it is POSSIBLE that this fact has ENHANCED the artistic freedom of the creator.)</p> 	2.4%	2
<p>Ναι, είναι ΠΟΛΥ ΠΙΘΑΝΟ ότι αυτό το γεγονός έχει ΕΝΙΣΧΥΣΕΙ την καλλιτεχνική ελευθερία ενός δημιουργού. (Yes, it is HIGHLY POSSIBLE that this fact has ENHANCED the artistic freedom of the creator.)</p> 	3.6%	3
<p>Άλλο (παρακαλώ διευκρινίστε)-Other (please specify)</p>		4
	answered question	83
	skipped question	0

17. Κατά την γνώμη σας το γεγονός ότι ένας δημιουργός προσφέρει ο ίδιος (μέσω των προσωπικών του αποταμιεύσεων ή/και βοήθειας από οικογένεια/φίλους, ή/και μέσω τραπεζών) το αναγκαίο χρηματικό ποσό για την ηχογράφιση και την επεξεργασία (μίξη, mastering κτλ.) μιας μουσικής παραγωγής επηρεάζει καθόλου την καλλιτεχνική ελευθερία ενός δημιουργού (In your personal opinion, does the fact that a creator will provide himself/herself, and/or through financial help from family, relatives, or friends, and/or through financial products from banks the funds for the recording sessions and their process (mix, mastering, etc.) influence his/her artistic freedom?)

		Response Percent	Response Count
Ναι, είναι ΠΟΛΥ ΠΙΘΑΝΟ ότι αυτό το γεγονός έχει ΠΕΡΙΟΡΙΣΕΙ την καλλιτεχνική ελευθερία ενός δημιουργού. (Yes, it is HIGHLY POSSIBLE that this fact has CONSTRAINED the artistic freedom of the creator.)		11.0%	9
Ναι, είναι ΠΙΘΑΝΟ ότι αυτό το γεγονός έχει ΠΕΡΙΟΡΙΣΕΙ την καλλιτεχνική ελευθερία ενός δημιουργού. (Yes, it is POSSIBLE that this fact has CONSTRAINED the artistic freedom of the creator.)		13.4%	11
Όχι, αυτό το γεγονός δεν έχει επηρεάσει καθόλου την καλλιτεχνική ελευθερία ενός δημιουργού. (No, it will not influence the artistic freedom of the creator.)		31.7%	26
Ναι, είναι ΠΙΘΑΝΟ ότι αυτό το γεγονός έχει ΕΝΙΣΧΥΣΕΙ την καλλιτεχνική ελευθερία ενός δημιουργού. (Yes, it is POSSIBLE that this fact has ENHANCED the artistic freedom of the creator.)		24.4%	20
Ναι, είναι ΠΟΛΥ ΠΙΘΑΝΟ ότι αυτό το γεγονός έχει ΕΝΙΣΧΥΣΕΙ την καλλιτεχνική ελευθερία ενός δημιουργού. (Yes, it is HIGHLY POSSIBLE that this fact has ENHANCED the artistic freedom of the creator.)		19.5%	16
		Άλλο (παρακαλώ διευκρινίστε)-Other (please specify)	2
		answered question	82
		skipped question	1

18. Ως δημιουργός, θα ήσασταν πρόθυμος/η να χρηματοδοτήσετε ο/η ίδιος/α (μέσω των προσωπικών του αποταμιεύσεων ή/και βοήθειας από οικογένεια/φίλους, ή/και μέσω τραπεζών) τις ηχογραφήσεις και την επεξεργασία (μίξη, mastering κ.α.) της επόμενης μουσικής σας παραγωγής (Would you be willing, as a creator, to pay directly yourself (through your personal savings, and/or financial help from family/friends, and/or banks) the amount of money needed for the recording sessions and their process (mix, mastering, etc.) of your next music production?)

		Response Percent	Response Count
Ναι, θα ήμουν πρόθυμος/η να προσφέρω όλο το ποσό (Yes, I would be willing to pay all of the amount myself.)		62.2%	51
Ναι, θα ήμουν πρόθυμος/η να προσφέρω το μισό ποσό. (Yes, I would be willing to pay half of the amount myself.)		13.4%	11
Ναι, θα ήμουν πρόθυμος/η να προσφέρω ένα μικρό κομμάτι αυτού του ποσού. (Yes, I would be willing to pay a small part of the amount myself.)		7.3%	6
Όχι, δεν θα ήμουν πρόθυμος να προσφέρω αυτό το ποσό. (No, I would not be willing to pay this amount.)		7.3%	6
Δεν ξέρω/Δεν απαντώ. (I do not know/answer.)		9.8%	8
	Άλλο (παρακαλώ διευκρινίστε)-Other (please specify)		1
	answered question		82
	skipped question		1

19. Ποιά είναι η σχέση σας με την μουσική (What is your relation to music?)			
		Response Percent	Response Count
Επαγγελματίας Καλλιτέχνης/Μουσικός (εκτελεστής, ερμηνευτής ή/και συνθέτης) (Professional artist/musician (performer, singer or/and composer))		36.1%	30
Ερασιτέχνης Καλλιτέχνης/Μουσικός (εκτελεστής, ερμηνευτής ή/και συνθέτης) (Amateur artist/musician (performer, singer or/and composer))		25.3%	21
Επάγγελμα σχετικό με τη μουσική (μουσικός παραγωγός/ηχολήπτης/μάντζερ σε δισκογραφική ή ανιχνευτής ταλέντων/ατζέντης καλλιτεχνών/κριτικός μουσικής/DJ κ.α.) (Profession related to music (music producer/sound engineer/record label manager etc.))		32.5%	27
Ερασιτεχνική ασχολία με τη μουσική (μουσικός παραγωγός/ηχολήπτης/μάντζερ σε δισκογραφική ή ανιχνευτής ταλέντων/ατζέντης καλλιτεχνών/κριτικός μουσικής/DJ κ.α.) (Amateur relation to music (music producer/sound engineer/record label manager etc.))		4.8%	4
Κανένα από τα παραπάνω. (None of the above)		1.2%	1
		answered question	83
		skipped question	0

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