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An Evaluation of the Diversity of the Film Market for Cinema and Video Recordings in France and in Europe

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Une mesure de la diversité des marchés du film en salles et en vidéogrammes en France et en Europe

Foreword

Cultural diversity is now a central aim of public cultural policies, particularly since adoption of the 2005 UNESCO Convention on the Protection and Promotion of the Diversity of Cultural Expressions, effective as of 18 March 2007 after its ratification by France and the European Union. Numerous cultural policy measures refer back to it, particularly within the cultural industries sectors. A largely political concern, there are nevertheless economic aspects of cultural diversity: it relates to important issues such as competition, industrial concentration, market power and economic efficiency, which are once again being brought to the fore in the present climate by economic globalisation and the effects of the digital revolution.

Aware of the public policy issues raised by the question of diversity, the DEPS (Department for Studies, Strategic Foresight and Statistics) has for the last few years included the issue in its research programme[1]. In 2008 it launched a call for research proposals on "the assessment and processes of modifying diversity within the cultural industry". Aiming to build upon all the results of socioeconomic analysis on the subject, the call for proposals invited researchers to address the issue of assessing the various aspects of cultural diversity (definitions and measures) and identifying the processes by which the diversity of cultural products supplied, distributed and consumed has changed.

This exploratory study offers new and original quantitative analysis of the diversity of the film market for cinema within six European countries (including France) in 1998, 2001 and 2004, and for the French film market for video recordings in 2003 and 2005. Based on Andrew Stirling's three-pronged approach (variety, balance and disparity), it seeks to determine a global diversity indicator and tends to confirm the excellence of the French diversity policy, as, in comparison with other markets, the French market is the most varied and balanced in terms of the films shown in cinemas.

Jean-François CHAINTREAU

Over the last decade, the issue of cultural diversity[2] and the demands and imperatives surrounding it have started to take concrete form in French, European and international legislation. What is the cultural diversity of a market, and what economic and social thinking lies behind the demand for cultural diversity? These matters call for the setting up of a strict conceptual framework in order to define whether the notion of cultural diversity, essentially branded as a political argument, can form the basis of an economic discourse.

Analysed from the point of view of measuring the cultural markets' diversity, which demands the creation of new methodologies, the idea of cultural diversity applies to all cultural markets and particularly to the film sector, due to its symbolic and historic importance and its unique role in international business negotiations[3].

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1. See Tristan MATTELART, *Enjeux intellectuels de la diversité culturelle. Éléments de déconstruction théorique*, Paris, Ministère de la Culture et de la Communication, DEPS, coll. "Culture prospective", 2009-2, July 2009. See also Hélène HATZFELD,Vincent BILLEREY, *Repères pour un dialogue interculturel*, Ministère de la Culture et de la Communication, Secrétariat général (SCPCI/DREST), 2010, available online at: www.culture.gouv.fr see Politiques ministérielles section.

2. The UNESCO Universal Declaration on Cultural Diversity 2001 then the Convention on the Protection and Promotion of the Diversity of Cultural Expressions in 2005; articles 87 and 151 of the Treaty Establishing the European Community, the Charter of Fundamental Rights of the European Union and protocol no. 9 annexed to the Amsterdam Treaty (1997), article 167 of the Treaty on the Functioning of the European Union; and finally the European Council resolution of 25 January 1999 concerning public service broadcasting, the European Council resolution of 12 February 2001 concerning national aid to the film and audiovisual industries, the MEDIA 2007 programme (2007-2013), the European Audiovisual Media Services Directive of 11 December 2007 or indeed the "Digital Agenda for Europe" (2010-2020).

3. Commercial disputes over films began with the dawn of cinema itself: the first commercial disputes over film circulation took place in 1910, pitting European and American film companies against each other. One of the most fierce disputes of recent years occurred during the Uruguay Round (1986-1994), part of the GATT rounds, i.e. multilateral trade negotiations.

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What is Cultural Diversity?

Ubiquitous since the early 2000s, the idea of cultural diversity suffers some semantic confusion, with the dilution of the term no doubt representing, for its opponents and proponents alike, a way of evading the matter of how it is to be defined.

Culture was defined in the 1982 Mexico City Declaration on Cultural Policies, reaffirmed in Stockholm in 1998, as "the set of distinctive spiritual, material, intellectual and emotional features of society or a social group[4]". Thus the cultural field expands, thereby establishing the need to restrict its scope to render it compatible with the idea of the market.

In order to be able to deal with the cultural industries and the artistic sphere, UNESCO has deliberately limited its scope to "cultural contents and artistic expressions", as of 2004 referred to as "cultural expressions". The very name of the Convention adopted in 2005 can therefore be seen to encompass cultural diversity, as well as the protection and promotion of the diversity of cultural expression. Reducing the scope of the convention on culture to 'cultural expression' makes it possible to draw up a legal text suitable for international regulation of cultural policy, something which would have been impossible based on a wider definition of culture. "For the purposes of this Convention, "cultural policies and measures" are defined as "those policies and measures relating to culture, whether at the local, national, regional or international level, that are either focused on culture as such or are designed to have a direct effect on cultural expressions of individuals, groups or societies, including on the creation, production, dissemination, distribution of and access to cultural activities, goods and services" (Article 4.6).

The film market, seen as one of many "cultural expressions", is considered from three points of view: film supply, film distribution and film demand (synonymous here with attendance figures).

Diversity is more easily demonstrable than culture, and its usage is both common[5] and highly specific within various scientific disciplines. Amidst the profusion of reference works, two essential texts stand out: one by Simpson[6] in 1949, and one by Weitzman[7] in 1992.

In his short one-page article, Simpson outlines an index for measuring diversity, which he defines as the degree of concentration of a finite number of individuals within different groups or species. The index formulated takes into account the number of groups, i.e. variety or richness, and the more or less equal distribution of individuals within the different groups, i.e. balance.

Weitzman insists on the importance of distance coefficients in defining diversity. He proposes a measurement of the distance between the items in a group, which gives the disparity. However, as a diversity function it is particularly restrictive. On the one hand it is based solely on the distance between the items and does not take into account the balance or richness of the group. On the other hand, it is based on a very precise and ultimately restrictive idea of the distance between the items, which means that the study group is typified by a taxonomic structure.

It is now widely acknowledged that diversity is made up of the three aspects mentioned in Simpson and Weitzman's texts: variety, balance and disparity[8].

Cultural diversity is therefore seen as the diversity of cultural product markets. This is based on the variety, balance and distance between the products supplied, distributed and consumed. Working from this basic definition, it is then possible to create a tool for measuring the diversity of the film markets. There have already been several studies which have investigated the issue of measuring the diversity of the cultural markets, but none of the methodologies have gained widespread acceptance. For one or more methodologies to gain wider acceptance, case studies need to be multiplied.

The Diversity of the Film Market for Cinema in Europe

The film industry for cinema comprises a host of markets: cinemas, video (rental, sales, downloads), TV broadcast (premium, subscription, free), etc. In this era of computing and convergence, the choice of the traditional cinema-based film market over the many other film markets is firstly explained by the symbolic as well as economic power of using cinema to show films as part of their career trajectory[9], and secondly by the relative transparency of the cinema film market: the availability and the relative reliability of film production and attendance data, and to a lesser extent distribution data, allow for an intertemporal and international study of the cinema film markets in Europe.

4. Similarly, the 2001UNESCO Universal Declaration on Cultural Diversity (Paris, UNESCO, 2001) offers an extended vision of culture as "the uniqueness and plurality of the identities of the groups and societies making up humankind."
5. For example the Petit Robert Dictionary defines it as "The condition or quality of being diverse". It gives two lists of broadly synonymous terms such as "multiplicity, plurality, variety" and also "heterogeneousness, richness".
6. Edward H.SIMPSON, "Measurement of Diversity", Nature, April 1949, vol. 163, p. 688.
7. Martin L.WEITZMAN, "On Diversity", The Quarterly Journal of Economics, May 1992, vol. 107, no 2, p 363-405.
8. See for example OECD, Handbook of Biodiversity Valuation A Guide for Policy-Makers, Paris, OECD, 2002, 156 p.
9. Film in cinemas remains the first market for film in the media release chronology. Although overall box office sales for films has consistently dropped, cinemas continue to draw audiences and a film's cinema release is always a key moment in the lifespan of a film. In 2009, European cinemas drew a total audience of 985 million, 200 million of which were in France (European Audiovisual Observatory).

Availability and Collection of Data

The analysis of the cinema film market is based on the six markets most representative of the diversity of countries and markets for European films[1] of the twenty eight which make up the European Union: Denmark, Spain, France, Poland, the United Kingdom and Sweden. The study was carried out over three years: 1998, 2001 and 2004.

The primary source of data used is the European Audiovisual Observatory's European database LUMIERE. Created in 2000, it provides detailed information on film admissions in European cinemas[2]. At the end of 2010, LUMIERE had data on over 20,000 films distributed throughout some thirty countries between 1996 and 2009. The films and admissions figures compiled in its database are drawn from a variety of national and European sources. Data from sources other than LUMIERE came via various different film institutes[3], which publish practically all public databases on the internet, and various commercial online databases (e.g. IMDB, CBO, Box Office Mojo, etc.).

A list of 5,650 films was drawn up, compiling all exclusive films and the most significant heritage films (defined as films over three years old) within the six countries during the three years in question (see Figure 1).

Having drawn up the list of 5,650 films, some fifteen attributes were then logged for each film in the list, with the aim of distinguishing them in as detailed a manner as possible, and with relevance to their diversity. The following details were therefore collected: the name of the director, year of production, nationality, language, ranking, production budget, quality, follow-up, presence of stars, the producer, distributor, publisher or even the number of copies. This detailed collection exercise was an indispensable preliminary step in developing a series of measurements of the diversity of the film market for cinema (supply, distribution, demand[4]).

The sample of films for the six European markets during the three years in question represents the supply of films. Data was also collected on their distribution and exploitation. The number of copies in circulation, indicating distribution, is only available for two of the six countries (France and Poland) and two out of the three years (2001 and 2004) but the admissions figures for each of the films is available for the entire sample group through the LUMIERE database.

1. It is worth noting that the sample countries present significant differences in population and size, different languages ("major" and "minor" European languages) and diverse geographical situations (Western Europe, Eastern Europe, Nordic countries, Southern European countries, etc.) Furthermore, the sample takes into account the diversity of film structures, markets and regulations within Europe: whether small or large in terms of film production, countries which are more or less influenced in commercial terms by North American cinema, and finally, countries with a more or less proactive film regulation system.
2. See: http://lumiere.obs.coe.int/web/sources/histo.html
3. DFI in Denmark, ICAA in Spain, CNC in France, the Film Council in the UK, Film Polski in Poland and SFI in Sweden.
4. It also gives a complete overview of the available data on cinema films in Europe and provides an array of basic and often completely new statistical data on the European film market. For more details, see Florence LEVY-HARTMANN, *la Diversité culturelle des marchés du film en salles et du film en vidéogrammes en France et en Europe*, working paper, Paris, Ministry of Culture and Communication.

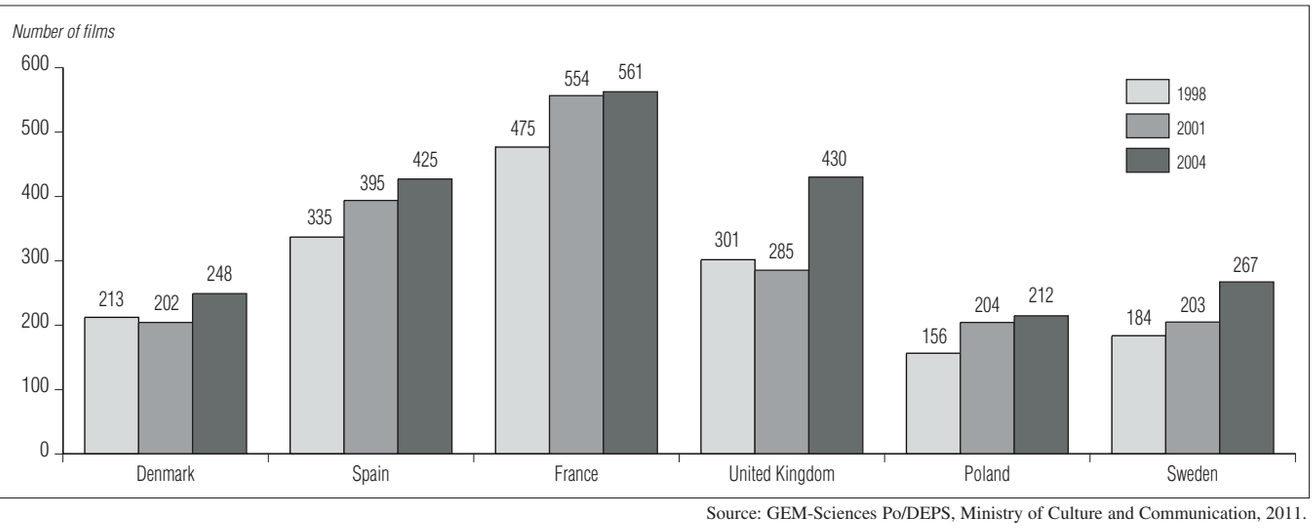
Film Categorisation

Diversity is made up of three aspects (richness, balance and disparity), but there are few indices which propose combining them: indicators generally only consider one or other, or even two out of the three. In particular, concerns over determining disparity arise: how are we to identify and measure the distance between two films?

First of all, a film category classification system must be created. Films within the same category are relatively similar to each other, whilst films in more disparate categories are naturally much more dissimilar.

At this point it is necessary to defend the notion of a certain degree of monopolistic competition within the film market, of a not inconsiderable degree of substitutability between films. Although each film is a unique work and every viewer's appreciation of it remains subjective, it seems conceivable from a scientific point of view that some connections may be made between film types.

Figure 1 – Breakdown of the 5650 Listed Films by Country and by Year



Source: GEM-Sciences Po/DEPS, Ministry of Culture and Communication, 2011.

By creating film categories we can not only determine the variety and balance between films, but also the disparity between them. With the creation of this classification system it is then possible to measure each of the three aspects of diversity and create a global diversity indicator. To avoid studying diversity on the basis of a single, overly-reductive indicator (e.g. film nationality), the classification system is based on several criteria.

Attributes Used in Creating a Film Classification System

Several attributes need to be cross-referenced in order to create a classification system which takes into account the complexity of what a "film" is; however there should not on the other hand be too many characteristics, at the risk of no longer being able to group films into meaningful and functional categories and thus creating an unusable classification system. Finally, the choice of attributes also takes into account a workability principle, which meant that those which could not be faithfully collected were excluded (e.g. production or promotion budgets).

The classification system used is reminiscent of the three aspects of cultural diversity defined by Paris in 2003[10]: geographic, industrial and artistic. It in fact combines information relating to a film's cultural roots, defined as the combined nationality and language of a film (geographical diversity), economic structures (industrial diversity) and the artistic/quality[11] dimension, as well as a film's age (artistic diversity).

The five selected criteria on which the classification system is based are generally independent of distribution conditions and the film's popular reception: the film's cultural roots and its production structure are determined before its market release; the quality index is based on its "Art et Essai" ("art-house") recommendation (or lack thereof) or on the film's critical reception (that published or made before a film's market release).

Film Classification: Nineteen Film Categories

The combination of criteria outlined above forms the basis for a classification system of nineteen film categories including cultural roots (nationality and language), production structure, quality and age of film.

Table 1 below illustrates this classification system; for each category, a representative film is listed (providing a clearer illustration than its code number alone)[12]. The classification system includes nineteen film titles by way of illustrative example, one for each category[13] represented.

The 5650 films are distributed across the nineteen film categories from which tables of frequency and attendance can be drawn up. These tables provide a basis for analyses of the three aspects of diversity, and thence an overall market analysis, covering the supply, distribution and demand for films within the six European countries over the three years selected.

Film Categories?

Grouping films, which are unique and different things, into relatively homogenous subsets, that is to say into artificial and multidimensional "types" may seem shocking. However, we consider it an essential prerequisite to creating a diversity indicator, and to constructing a rational discourse on the diversity of the cinema market. It also moves us away from the traditional alternative:

– analysing diversity on the basis of a single, one-dimensional indicator, based on a single attribute (usually a film's nationality). This discourse is of course reductive; it may be simple and efficient, but casts little light on market diversity;
– analysing market diversity on the basis of a range of heterogeneous indicators, which can be individually analysed, with the conclusions to these analyses juxtaposed. This analysis is, then, multidimensional, and in this sense, closer to the reality of film market diversity. But how are we to draw conclusions from a range of disparate indicators? Analysis can be neither global, nor, consequently, conclusive.

By constructing a multidimensional film classification system we provide a solution to this problem, allowing analysis which is both functional (i.e. feasible and statistically significant) and multidimensional, and therefore not overly reductive (i.e. films are not reduced to a single attribute).

10. See Maryvonne de SAINT PULGENT, Pierre-Jean BENGHOZI, Thomas PARIS, *Mondialisation et diversité culturelle : le cas de la France*, Paris, Les notes de l'Ifri, 2003, 84 p.
11. There is a compelling argument for including the criteria of quality or artistic merit: it is important that the artistic dimension is not overlooked within the diversity analysis of the film market, as clearly it is the cultural and artistic aspect of the film market that drives the imperative to protect and promote its diversity. This quality is attributed based on whether or not a film is recommended by the 'Art et Essai' (art-house) cinema association in France, and for others, based on its critical reception (weight of positive or negative reviews as compiled on sites such as Rotten Tomatoes or Metacritic).
12. The coding system works as follows: the film's cultural roots determine the first figure (from 1 to 8), the production structure (0 for a major, 1 for independents) determines the second for the relevant categories (American films in English, therefore cultural roots 1). The quality (0 for low, and 1 for high) determines the last code number. Finally, category 9 is given to cultural heritage and/or silent films.
13. Where categories are based on such attributes as country and native language, examples given are taken from the French market. So, *Vidocq* or *The Lady and the Duke* do not appear in categories "30" and "31" for analysis of the British or Spanish markets.

Variety, Balance and Disparity in the Cinema Film Market

Variety in the Cinema Film Market

Variety, or richness, represents the range of choice which is supplied, actually distributed and ultimately consumed. The higher the number of options offered or chosen, the more important richness is considered. How are we to appreciate the richness of the films on the market in terms of supply, distribution and demand?

We measure the variety of a collection N, made up of entities (n) grouped into categories (S). Four variety indicators are used:

– the number of species (S) in a collection (at the level of supply, distribution and also demand). A traditional variety indicator, usually used within the field of biology, it does not however seem entirely relevant[14];
– the number of products (N) within a collection[15]: number of films supplied/copies in circulation/tickets sold. This tool has the advantage that it is not biased by the subjective definition of film type (species), but raises the question of how to compare variety of supply with that of distribution and demand[16]. Above all, it remains sensitive to size of the market in question. Hence, from the point of view of international comparison, the need to test weighted indicators;
– number of products (films/copies/tickets) weighted by population (expressed in thousands);
– number of products (films/copies/tickets) weighted by number of screens (expressed in hundreds);

Analysis of these four indicators allows us to draw certain conclusions about the richness of the six markets sampled between 1998 and 2004:

– although the different indicators establish shifting hierarchies between countries, the variety in distribution, demand and, to a lesser extent, supply, tends to be greater within the larger audiovisual markets (France, Spain and the UK) than in the smaller markets (Denmark, Poland and Sweden[17]);

Table 1 – Film Classifications

Code	Example of film	Cultural foundations of production (nationality + language)	Structure of production	Quality
Recent sound films				
100	*Catwoman*	United States + English	*Major*	No
101	*Gatacca*			Yes
110	*Psycho Beach Party*		Independent	Non
111	*Requiem for a Dream*			Yes
20	*Cold Mountain*	Anglophone country (outside US)		No
21	*Intimacy*	Home country, large European country + English		Yes
30	*Vidocq*	Home country + home language		No
31	*The Lady and the Duke*			Yes
40	*Go for Gold!*	United States, Anglophone country, large European country		No
41	*Madame Brouette*	+ home language		Yes
50	*The Passion of the Christ*	Home or Anglophone country		No
51	*S-21*	+ neither English nor home language		Yes
60	*Autobahnraser*	Large European country + major European language		No
61	*La mala educación*	Or small European country + English, home language, major European language		Yes
70	*Final Fantasy*	Rest of the world* + English, home language		No
71	*Central do Brasil*	Major European language		Yes
80	*The Attack of the Giant Mousaka*	Europe or rest of the world + minor European language or other language		No
81	*Saraband*			Yes
Films over three years old and/or silent films				
9	*Les 400 coups*	Heritage films and silent films		

* In this context, the rest of the world means countries outside home country, US, Anglophone countries and European countries.

Source: GEM-Sciences Po/DEPS, Ministry of Culture and Communication, 2011.

14. It requires only one single film, a single copy or a single ticket for a category to be counted within the rubric of market variety, which can sometimes seem too crude.
15. This approach corresponds to that taken by Benhamou and Peltier in their study of the diversity of the book market (F. BENHAMOU, S. PELTIER, "Une méthode multicritères d'évaluation de la diversité culturelle", op. cit).
16. How can we compare the richness of the number of films available (5,650), the number of copies (149,940) and the number of tickets sold (1,477 million)?
17. Analysis by number of categories shows greater richness in Spain (supply and demand) and in France (supply, distribution and demand) compared with the other countries. The UK is next in line, although two categories are necessarily absent from this market. The number of products on the market (films, copies or tickets) markedly reinforces the more varied nature of the three largest markets in comparison with the smaller countries. Weightings on the variety of films/copies/tickets by population or number of screens only ultimately modify this conclusion in the case of supply, with Denmark and Sweden thus presenting considerably more films per screen and per head of population than the three largest countries.

– the temporal analysis is consistent between indicators and between one level of the industry and another: varieties supplied, distributed and consumed increased between 1998 and 2004[18];
– it is hard to compare degrees of variety between the different levels of the industry (supply, distribution and demand). Whichever indicator is chosen, it is hard to compare the varieties supplied, distributed and ultimately consumed: either they are very close (in terms of species) or they cannot be placed on the same footing and are ultimately too distant (in terms of products).

Balance in the Cinema Film Market

Calculating balance in the cinema film market is done on the basis of the weight or respective importance of the different film categories at supply, distribution or demand level. The economic literature is consistent on the issues of balance, market concentration and measuring concentration; the key issue therefore lies in choosing between the various indicators.

Five balance indicators have been tested

Of the existing tools for measuring market balance, some measure market balance alone (often in a relatively crude manner, for instance using dominance indicators[19]) whilst others deal with both market variety and balance:

– the Berger-Parker index is a simple dominance index. It expresses the frequency of the most significant category:

$$E1 = nmax / N$$

– the concentration coefficient is also a dominance index. Here it is made up of the sum of the frequencies (pi) of the three largest categories:

$$E2 = pi + pj + pk$$

– the Herfindahl-Hirschman index is calculated by adding together the squared frequencies; it is a commonly-accepted measure of market concentration :

$$E_3 = \Sigma\, p_i^2$$

A high HH indicator (>2,000) indicates a high market concentration ;

– The McIntosh balance index is a balance indicator, showing solely the balance, between different categories of a collection, based on the population of each category.

$$E_4 = [N - \sqrt{(\Sigma\, n_i^2)}] / N - (N / N\sqrt{S})]$$

A smaller number – or an absolute value of the larger result- is more desirable from the point of view of balance ;

– McIntosh's dual index (the so-called diversity index) takes into account both the balance between categories and variety, through the number of species represented in the collection[20] :

$$E_5 = [(N - \sqrt{(\Sigma\, n_i^2)}] / [N - \sqrt{N}]$$

This is the standardised form of McIntosh's diversity formula, so results vary between 0 and 1. A higher result indicates higher diversity in the collection.

The five indicators give us a series of results for the balance of the cinema film market:- the French market is shown to be slightly more balanced than the others. The three major markets, topped by France, also have a more balanced supply than the smaller countries. The balance of copies is also greatest in France. Finally, the balance of demand is markedly higher in France, followed by the three smaller countries, whilst it is less high in Spain and the UK, where attendance seems to be concentrated across just a few film categories;

– balance in Europe is up compared to 1998. It is not possible to mark this up to an increasing trend: 1998, the year in which James Cameron's *Titanic* was released, seems like a very poor year in terms of balance[21];
– balance is falling, from supply to demand. Contrary to the variety score, the comparison between the balance of the three markets (supply, distribution, demand) makes sense. And the results bear this out: the balance of tickets sold is considerably lower in comparison with that for copies, which is itself clearly lower than that for films released onto the market[22].

18. Per-screen attendance went up particularly between 1998 and 2001 (up 3.2%) then less consistently between 2001 and 2004. The number of copies per screen went up by 16% between the two periods in question. Finally, the number of films per hundred screens went down between 1998 and 2001, but went up considerably during the period which followed to finally outstrip 1998 levels in 2004.
19. Dominance indexes (Berger-Parket and concentration coefficient) are certainly indicators which are simple and easy-to-use, but their interpretative power is limited. They do not, by definition, consider the balance of all the available categories within a market, just part of one or a few dominant categories. They are easily influenced by several epiphenomena on the national markets and cannot take account of the showings of smaller film categories, such as films from third countries or heritage films, which are essential when we are investigating cultural diversity in films. If we were to keep only one balance indicator, it would therefore be better to avoid a dominance indicator.
20. Interestingly, it is worth noting that the McIntosh dual index always leads to the same conclusions as those drawn from the two simple balance indicators. Does taking variety into consideration have no impact at all? This is clearly explained by the fact that the kind of variety considered by this indicator is category variety. The latter discriminates little between countries and years. Hence the relatively minimal impact of including it in McIntosh's dual formula.
21. The balance of supply, which is quite high, seems to have increased in all countries between 1998 and 2001, and then up to 2004. The balance between copies (in France and Poland) went down considerably between 2001 and 2004. In all those countries included in the sample, the balance between tickets sold seemed to improve markedly between 1998 and 2001, then drop, less dramatically, between 2001 and 2004.
22. For example the Herfindahl-Hirschman index shows that overall supply is markedly below the 2000 threshold, but once copies in France and Poland are taken into account, the threshold is exceeded (2381). At demand level, the indicator gives a score of 3472, showing a high concentration for some film categories.

Disparity in the Cinema Film Market

Disparity, or distance, represents the most problematic aspect of diversity from a technical viewpoint, and the most controversial from a conceptual viewpoint. It raises two questions: can we measure the distance between two films, and can we claim to be able to determine such a measurement?

There are various different views on the disparity between two categories. For example, our classification system does not allow us to use Weitzman's ultrametric distance between the species. On the other hand, taking a dissimilarity-based approach, which has the advantage of being multidimensional, is perfectly possible. It is a matter of comparing species two by two, and attribute by attribute[23]. This can then be used to draw up a distance matrix, or rather a dissimilarity matrix[24]:

Based on a dissimilarity matrix, two calculations of the dissimilarity between sample films are proposed:

– the total distance between categories within the sample group, according to the Stirling method[25]. This calculation gives the strict definition of distance in the market, and does not take into account the number of films, copies or tickets in each category ;

$$D_1 = \Sigma\, d_{ij}$$

where d_{ij} is the distance between species i and j.

– the total distance between the films in the sample group. Unlike the previous indicator, this formula is very sensitive to the number of films supplied, to the richness of the market. Taking into account the products rather than simply the presence of categories on the market, this formula can also effectively take into account richness in the market. Therefore it is not independent of the other aspects of diversity :

$$D_2 = \Sigma\, d_{ij}\, n_i$$

Both cinema film market distance calculations for the six European countries studied demonstrate the following:

– disparity appears far greater in France than the other countries at all levels, i.e. supply, distribution and demand. The hierarchy between the other countries is more vague. At supply level it is the larger countries (Spain and the UK) which show the greatest disparity, but this is less the case for demand.

– an upward trend in disparity between 1998 and 2004 was seen across all markets once the per-film (rather than per-category) disparity indicator is taken into account. It indicates an increased disparity of supply between 1998 and 2001, and then between 2001 and 2004, in nearly all countries (except Denmark). Similarly, it highlights an overall increase in consumed disparity between 1998 and 2004, experienced as an initial increase up to 2001 and followed by a less dramatic drop by 2004.

A Global Indicator of Diversity in the Cinema Film Market

It is tempting to create an ad hoc indicator, based on indicators for variety, balance and distance as outlined in the sections above. However, Stirling has demonstrated how existing diversity indices struggled to satisfy the demands of a good indicator. Consequently his global market diversity indicator has been used. It expresses diversity as follows (a higher final score indicates greater diversity) :

$$M = \Sigma_{ij}\, d_{ij} \cdot p_i \cdot p_j$$

Based on the frequency tables and the dissimilarity matrix, and using Stirling's formula, the diversity calculations for each of the six markets over the three relevant years can be made for supply, distribution and demand respectively.

The diversity scores obtained (Table 2, Figures 2, 3 and 4) seem consistent with the various conclusions drawn from the analysis of the three aspects of diversity: whether for the disparity between the diversity of both supply and demand, the level of diversity of distribution, temporal evolution or geographic variations, the overall index does not contradict the detailed analysis, reassuringly confirming the reliability of this tool.

Diversity of Supply (films)

Diversity of supply is highest in France, followed by the UK, Denmark, Spain, Sweden and finally Poland. It is logical that we should see a higher level of diversity in France, when we consider that practically all indicators of variety, balance and disparity have shown that France was the most varied, the most balanced and indeed the most disparate market.

This tool does not rank all the larger markets highest, although several indicators, (those expressed as absolute values), showed them to be richer, more balanced or more disparate than the smaller countries. Denmark, in fact showed a highly varied cinema supply; it also showed a very disparate supply when we reduce distance to number of tickets sold, such that in the final diversity classification, it ranked between the UK and Spain.

Over time, the trend is towards increasing diversity of film supply. Five of the six markets saw their diversity of supply increase. Only supply in the Danish market appears less diverse in 2004 than it was in 2001 or even in 1998, which is consistent with the results of the market disparity analysis.

23. See for example André Lemelin, *Méthodes quantitatives des sciences sociales appliquées aux études urbaines et régionales*, Montréal, INRS, 2004.
24. Categories are based on four attributes. Dissimilarity is calculated based on pairs of categories: a score of 0 is given for each attribute shared by both categories; a score of 1 is given for each attribute not shared by both categories and a score of 0.5 is given where an attribute cannot be compared between two categories (so, production structure only features for four of the nineteen categories).
25. Andrew STIRLING, "On the Economics and Analysis of Diversity", SPRU Electronic Working Paper no 28, 1998 (http://www.sussex.ac.uk/spru/research /sewps [consulted 13 September 2011]).

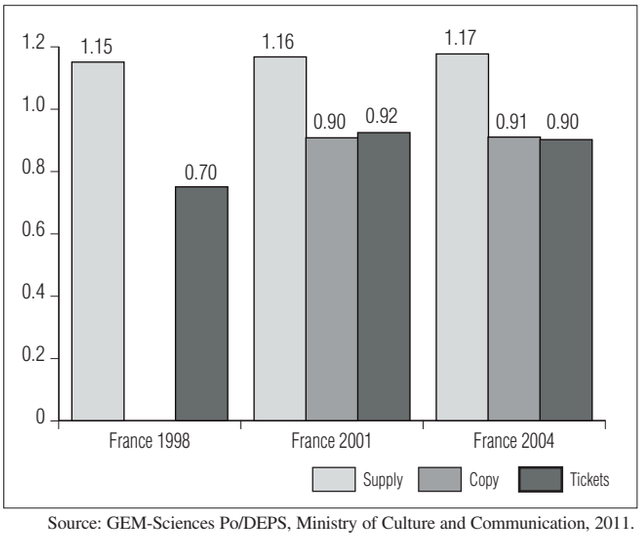
Table 2 – Calculating Film Diversity

	Diversity of Supply	Diversity of Distribution*	Diversity of Demand	
All films (all years and all countries)	1.102	0.907	0.751	
1998 (all countries)	1.067	n.a.	0.627	
2001 (all countries)	1.112	0.906	0.837	
2004 (all countries)	1.121	0.905	0.754	
Denmark (all years)	1.074	n.a.	0.82	
DK 1998		1.072	n.a.	0.67
DK 2001		1.103	n.a.	0.874
DK 2004		1.025	n.a.	0.835
Spain (all years)	1.042	n.a.	0.647	
SP 1998		1.021	n.a.	0.517
SP 2001		1.053	n.a.	0.741
SP 2004		1.059	n.a.	0.633
France (all years)	1.168	0.918	0.879	
FR 1998		1.151	n.a.	0.70
FR 2001		1.166	0.91	0.925
FR 2004		1.178	0.914	0.909
UK (all years)	1.108	n.a.	0.6	
UK 1998		1.061	n.a.	0.506
UK 2001		1.092	n.a.	0.683
UK 2004		1.128	n.a.	0.584
Poland (all years)	0.932	0.698	0.802	
PL 1998		0.854	n.a.	0.522
PL 2001		0.995	0.75	0.979
PL 2004		0.911	0.657	0.667
Sweden (all years)	1.008	n.a.	0.76	
SW 1998		0.933	n.a.	0.567
SW 2001		0.99	n.a.	0.838
SW 2004		1.04	n.a.	0.817

* Here. diversity of distribution is calculated excluding heritage films
It is worth noting that the results are easy to analyse here as a single number characterises the diversity of a market.
n.a. : not available.

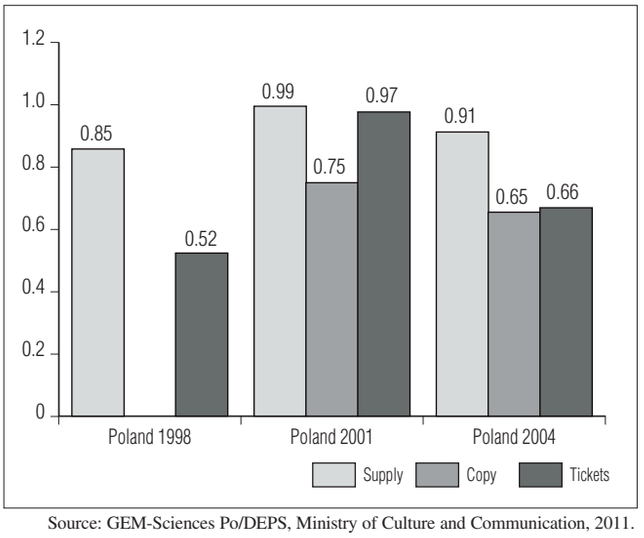
Source: GEM-Sciences Po/DEPS, Ministry of Culture and Communication, 2011.

Figure 2 – Diversity of Supply, Distribution and Demand in France in 1998, 2001 and 2004



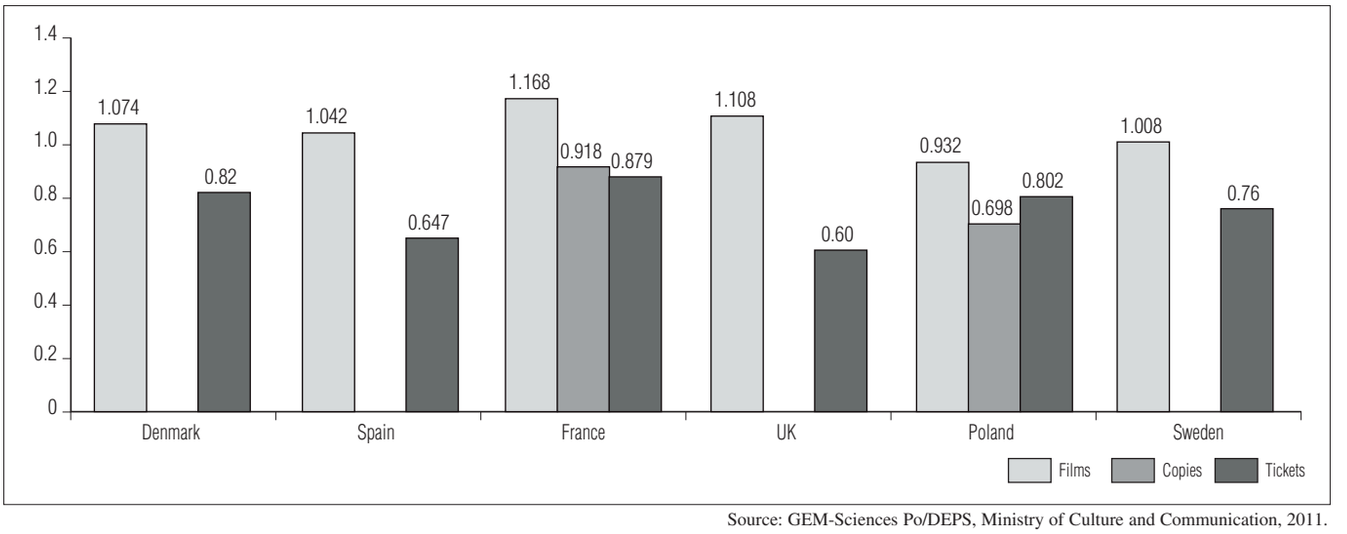
Source: GEM-Sciences Po/DEPS, Ministry of Culture and Communication, 2011.

Figure 3 – Diversity of Supply, Distribution and Demand in Poland in 1998, 2001 and 2004



Source: GEM-Sciences Po/DEPS, Ministry of Culture and Communication, 2011.

Figure 4 – Diversity of Supply, Distribution and Demand per Country (1998, 2001 and 2004)



Source: GEM-Sciences Po/DEPS, Ministry of Culture and Communication, 2011.

Diversity of Distribution (copies)

Diversity of distribution is only calculated for two markets (France and Poland) and for two years. Markedly lower than diversity of supply for both countries, diversity of copies turns out to be higher in France than Poland. Diversity of copies seems to have been stable in France between 2001 and 2004 (from 0.91 to 0.914) whilst during the same period in Poland it declined (from 0.75 to 0.657)

Diversity of Demand (tickets sold)

For the first time, diversity of demand appears to be highest in France (0.879) followed by Denmark, Poland, Sweden, Spain and finally the UK. Although diversity of supply is somewhat higher in the highest-producing countries, this is in no way any guarantee of diversity of demand. The UK is a case in point: with the second-highest diversity of supply (1.11) it ranks lowest for diversity of demand (0.6).

Diversity of demand grew clearly between 1998 and 2004, due to a spectacular upturn (33%) between 1998 and 2001, which was not offset by the less dramatic fall between 2001 and 2004 (0.754). This trend for a very marked upturn followed by a fall in 2004 was observed across the six sample markets. It is of course hard to argue the case for a structural increase in diversity of demand on the basis of just three years, since there were two opposing trends over the two periods in question, and demand also seems to be particularly volatile. It is possible that the marked increase in diversity between 1998 and 2001 follows the exceptionally low level of diversity of demand reached in 1998[26].

Overall Results

On the basis of our results, France is incontrovertibly the country with the highest level of diversity in the cinema film market. This applies to supply, distribution and demand.

The situation for the other two larger markets is less marked; it has been observed that in both Spain and the UK supply is relatively diversified, whereas demand is particularly concentrated.

The increasing similarity in levels of diversity for films, copies and tickets across the various markets indicates, in the six cases in point, a significant drop in diversity levels between supply and demand. There is a more significant difference between the diversity of supply and of distribution, than it is between diversity of distribution and demand, which are often very close.

Diversity of supply increased slowly but surely; diversity of distribution seems to have been generally stable; finally, diversity of demand increased strongly between 1998 and 2001, then dropped between 2001 and 2004, with the overall trend being positive, although this could possibly be down to 1998 being a 'freak' year which was exceptionally low.

26. Analysis of the dimensions of diversity has in fact shown how much the demands upon the various markets has been exceptionally concentrated, thereby destabilising the markets in 1998, the year of James Cameron's *Titanic*, which accounted for 13% of admissions, whereas the most popular sample films of 2001 and 2004 only accounted for 5 and 5.1% of admissions (for *Harry Potter and the Philosopher's Stone* and *Shrek 2* respectively). Ideally we would want to extend the diversity calculations over a longer period of years to be able to back up the hypothesis that 1998 was an exceptionally low year.

The Diversity of the Film Market for Video Recordings

The career of a film is not limited to its cinema screenings. It is subsequently consumed in the home, following the media chronology: rented and sold as a video, in the form of a VHS, a DVD, a Blu-ray or a virtual file, or broadcast on television. The market for video recordings, although only one of the ways in which films are consumed at home, is of interest in several ways in the context of the diversity of cinematic markets.

Firstly, the diversity of the market for films released in video form is studied less frequently than that for films shown in cinemas. Statistical data are gathered, for example, by the CNC, the European Audiovisual Observatory, Screen Digest and the International Video Federation (IVF). Beyond this raw data and the traditional descriptions of the way the markets work, few articles have really considered the diversity of the market for video films (its composition, the balance of supply or sales, etc.) The majority of articles which analyse the success factors for films, and thus the concentration of films on a few star products, focus on success in the cinema, but do not address their exploitation. Analysis of the 'long tail' phenomenon, however, has drawn more attention to the range of the video market.

Nevertheless, the video market represents a significant element in the career of a film and the economics of cinema. While the sale of video recordings was equivalent to 55% of cinema receipts in France in 2000, this proportion rose to more than 70% in 2008 (CNC figure). Across Europe, the same holds true: in 2008, turnover for the video market in the United Kingdom or in Germany even exceeded cinema takings (European Audiovisual Observatory figures). Finally, the video market is of particular interest in the light of the debates on the digitalisation and virtualisation of works. The traditional video economy is implicated in three ways. First, because DVDs VHS or Blu-ray purchases increasingly take place on online distribution platforms. Second, because films can now be sold or rented not in the form of a physical product (DVD, VHS, etc.) but by simply downloading (or by streaming) an electronic file (video on demand). And finally, because files are more and more easily exchanged, circulating from one user to another, sometimes illegally.

Data Availability and Collection

The GfK Database

The first hazard to be overcome in determining the diversity of the video market is the lack of transparency in this market; it is particularly problematic to collect disaggregated basic data.

National film institutes in Europe do not collect retail sales data for video recordings1. Because of the obvious shortage of public data, it is necessary to approach private data providers. GfK deciphers multiple markets, including markets for cultural goods (books, music, video recordings, interactive leisure, etc.) and is the sole organisation collecting basic data on the video market in the different European countries. Its panel covers several tens of thousands of references, so that the GfK data appear to be the most complete, certainly in France[2].

Geographic, Temporal and Economic Framework

Because of the absence of public European data, the nature of the basic data provided by GfK and the difficulties of processing these data, the analysis of the video film market will be confined to the French market and will cover two years only: 2003 and 2005.

Two measures of diversity can be established: the diversity of supply, i.e. of the video recordings offered for sale, and the diversity of demand, i.e. of the video recordings purchased by consumers.

A list of 6,528 films has been established representing all the films offered for sale in video form in France in 2003 and 2005 which sold at least 1,000 copies[3]. For each of these films, around fifteen attributes have been collected: director's name, year of production, nationality, language, rank, production budget, quality, series, presence of stars, producer, distributor, publisher, number of copies, number of references, etc.

1. Although in France the CNC has a tool for assessing the video recordings market, it acts on a declaratory basis and does not cover the entire market.
2. GfK received sales data from the cash registers of around 3,500 sales outlets (in 2010) and extrapolates from these data to obtain national data.
3. The application of a threshold naturally adversely affects the exhaustiveness of the sample, but was necessary, not only to restrict the time spent collecting the data and processing the information, but also to obtain a list of films which was as unbiased as possible.

Variety, Balance and Disparity in the Video Film Market

Variety in the Video Recording Market

Variety, or richness, may represent the extent of the choice offered by the market (the variety of the supply) or the range of consumer purchases (the variety of the demand). Two indicators of variety used in the case of the cinema market are used again here[27]:
– the number of types present in the collection;
– the number of products present in the collection.
Two observations emerge from these two indicators:
– variety (of both supply and demand) increased between 2003 and 2005. The number of different video recordings offered on the market rose from 2,650 films in 2003 to 3,880 in 2005[28], while the volume of sales increased from 43 to 54 million between 2003 and 2005 in France;
– the supply appears to be more varied for video than in cinemas, but it is in cinemas that the demand is most var-

27 The two indicators of variety based on the weighted numbers of products used in the analysis of the diversity of the cinema film market are not reused to analyse variety in the video recording market. Weighting by the number of screens used in the cinema market is obviously irrelevant to the analysis of the video market, and weighting by population has no value in the absence of international comparisons.
28 The increase in variety seems reasonable, since the market for film recordings operates in a cumulative mode (more films were available as video recordings in 2005 than in 2003). It is a stock-based market unlike the cinema market which depends on new releases and where variety is naturally limited by the number of screens and weeks in the year. Video recordings remain available in retail sales outlets for months or even years, all the more readily as the shops themselves become virtual with the growth of e-commerce.

Re-use of the Film Classification System

The data thus collected should enable us to develop a measure for the diversity of video film markets. To this end, the methodology tested on the cinema film market is used once more; the films are divided in a classification system which recalls the biological division into species. This system is used in the analysis of the three aspects of diversity, which are addressed successively and then in summarised form.

The film classification system is identical to that used in the analysis of the diversity of the cinema film market. The distinction between the film categories thus continues to be based on four criteria: the cultural background of the film (nationality and language spoken), the production structure (major production companies or independent producers for American films), artistic excellence/quality and finally the age of the film. However, this last criterion poses a problem.

Heritage films form a considerable proportion of the 6,528 films in the video recording market. Films which are more than three years old (defined as heritage films) represent nearly 75% of the sample. Unlike the cinema film market, the market for video recordings is not fundamentally organised around new production. The video film market is a stock-based market and the films do not disappear from the shelves after a few weeks when they are no longer showing in cinemas. Grouping all the heritage films into a single category skews the calculations: the balance between the categories is then under-estimated (because three-quarters of the films appear in a single category) and the disparity is over-estimated (because these very numerous films are regarded as very distant from each other). The sole variation between this method and that used for the cinema film market consists in the elimination of the criterion of age and of the heritage film category[1]. The criterion of the age of the film is no longer taken into account in the analysis, but this does not mean that heritage films are excluded from the analysis. This addresses all 6,528 films in the sample, but heritage films are re-classified to one of the eighteen other categories according to their origin, production structure and quality.

The gathering of data and the creation of tables showing numbers and frequency enables us to develop indicators of variety, balance, disparity and finally diversity in the little-known market for films released as video recordings. Their analysis should enable us to determine, inter alia, whether the diversity of the video film market is comparable with that of the cinema film market, and whether it varies with the distribution platform: for example, are works sold over the Internet more diverse than those sold in traditional stores?

1. Note that this category (no 9) is by no means completely empty because it contains heritage films and silent films. The latter therefore remain in category 9.

ied. The two indicators demonstrate the greater variety of the supply in the video film market. Whereas in France in 2001 or in 2004, only 17 categories were represented, 19 are present in the video film market in 2003 and in 2005. A little over 500 films are screened annually in French cinemas, while more than 3,000[29] are available in the video market. Conversely, the reverse is true of demand. The number of films seen in cinemas in a year sharply exceeds the number of films bought on video: 154 and 177 million of tickets sold, compared with 43 and 54 million video recordings sold.

Balance of the Video Recording Market

The balance of the market concerns the relative importance of the different film categories in the supply and demand of video recordings, i.e. the more or less equal distribution of films between categories.

The series of five indicators of balance used for the cinema market is used again:

– two indices of dominance (Berger-Parker index and coefficient of concentration);
– two measures of balance only (McIntosh and Herfindahl-Hirschman indices);
– a dual index, taking account of both balance and variety (the McIntosh diversity index).

The various calculations enable us to draw the following conclusions:

– the supply of video recordings is better balanced than the demand, regardless of the indicator applied. The two dominance indices show that the dominant categories account for a lesser proportion of the supply than of the demand. For example, the three dominant categories[30] account for 57% of the films available on video, but 69% of sales. The Herfindahl-Hirschman indicator also suggests that the supply is better balanced than the demand: 1,499 in the average year for supply, and 2,193 for demand. Supply thus falls below the symbolic 2,000 mark, often regarded as a concentration threshold in a market, while demand stands above it;
– the balance increased between 2003 and 2005. The five indicators show a better balance of both supply and demand in 2005 than in 2003;
– the video film market seems less balanced than the cinema film market in terms of supply, but not in terms of demand. This observation is interesting, because the video film market is often presented as less diverse, more uniform and less original than the cinema film market. In particular, the demand for films in video form is often described as particularly concentrated, focusing even more than cinema films on a few often unoriginal and poorly made titles. If the indicators of balance tell us nothing about the range in the video film market, they nevertheless indicate a demand which is ultimately less concentrated than in the cinema market.

29 This figure only concerns films selling more than 1,000 copies, which nevertheless represents more than 96% of sales in the video recordings market.
30 The three categories best represented in the supply of films as video recordings are also those which dominate demand in this market. These are the categories 100 (*Catwoman*), 110 (*Psycho beach party*) and 30 (*Vidocq*), i.e. three categories of film with few artistic claims. Thus, there is a disparity between this and the cinema film market: the figures for the French market demonstrated that the dominant categories in the supply were 100 (*Catwoman*), 30 (*Vidocq*) and 9 (*Les 400 coups*), while in the demand these were the categories 100 (*Catwoman*), 30 (*The Lady and the Duke*) and 31 (*Vidocq*). Quality domestic films account for a relatively larger proportion of the cinema market than of the video market.

Disparity in the Video Recording Market

Are the films in the various categories more or less similar to each other? The disparity between the films, a complex concept which is hard to quantify, is envisaged here as the degree of dissimilarity between film categories. On this basis, the dissimilarity semi-matrix[31], a crucial element in describing the calculations of the disparity described in the study of the cinema film market, is again used.

On the basis of the dissimilarities between film categories, two indicators of disparity were tested:

– the total distance between categories present in the sample;
– the total distance between films present in the sample.

The second indicator is applied to products and not merely to categories. In consequence it reflects more than just the disparity in the market, because it also records variety (in numbers of products).

The calculations result in a series of observations regarding the video market in France:

– the disparity of the demand appears no less than that that of the supply. According to the first indicator, the distance between the films offered and consumed does not vary, or hardly so, which is due to the fact that the number of categories represented is the same for both supply and demand. However, the second indicator (the total distance between films) suggests that the distance consumed is much greater than the distance supplied. Thus, in the case of supply, the total distance takes account of the distance between all the films on the list, while in the case of demand it is the distance between all the copies sold. Variety (in products) thus enters into this calculation, undoubtedly to the benefit of an extensive disparity in the demand.
– the disparity increased between 2003 and 2005, according to the indicator of distance between products. But the increase in the total distance, sensitive to the variations in variety supplied and demanded, is logical, given that we have already observed an increase during this period in the varieties both supplied and demanded.
– the disparity appears to be greater than for cinema films in terms of the indicator of distance between categories. The total distance between the films suggests that the supply of video films is more diverse than that of cinema films, but leads to the opposite conclusion for demand. However, as we have seen, the first indicator does not seem particularly relevant for use in our limited film nomenclature, and the second is too sensitive to differences in variety between the markets.

A Global Indicator of Diversity in the Video Film Market

By dividing films into categories and using the matrix of film category dissimilarity we can apply Stirling's formula, i.e. calculate a market diversity index, taking into account market variety, balance and disparity.

There is little transparency in the video market and ultimately studies on it are few; the diversity of this market has never before been analysed in a global manner. A diversity calculation allows us to draw up a series of observations.

Table 3 - Indices of Diversity of Supply and Demand for Videos

	Diversity of Supply	Diversity of Demand
All films	0.93	0.79
2003	0.91	0.75
2005	0.94	0.83

Source: GEM-Sciences Po/DEPS, Ministry of Culture and Communication, 2011.

Diversity of Supply is Higher than that of Demand.

In line with the results for indicators of variety, balance and some of the distance indicators, supply ultimately seems to be appreciably more diverse than demand. The indicator therefore ranges from 0.93 for supply to just 0.79 for demand.

Greater Diversity in 2005 than in 2003.

The level of diversity obtained was higher in 2005 than it was in 2003, which is consistent with the analyses of the different aspects of diversity detailed in the previous sections. These in fact showed increased variety[32], better balance and greater disparity in 2005 than in 2003, for both supply and demand. Logically, therefore, diversity of supply went from a score of 0.91 to 0.94 whilst demand went from 0.74 to 0.83.

It is worth noting here that diversity of demand grew considerably more than diversity of supply (12.2%, as compared with 3.3%). This does not of course mean that we can draw any conclusions about the evolution of the video film market over time.

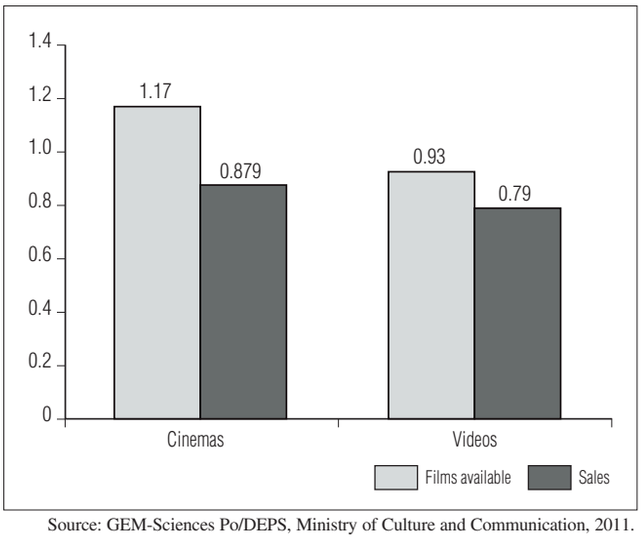
Films in Cinema and Films on Video

A primary observation is that both markets have relatively similar diversity levels, and are therefore remarkably comparable. It is worth remembering however that any comparison between diversity levels for the two markets (cinema films and video films) has to be qualified, as the

31 Given the priority given to the comparison between the different markets, the matrix has not needed modification and the distances between categories have been maintained exactly as in the analysis of the cinema film market.

32. More specifically, the variety of products supplied grew appreciably between 2003 and 2005, which might be explained by the cumulative nature of the video market, and by the increase in online trade.

Figure 5 - Indices of Diversity of Supply and Demand for Video and Cinema Films



Source: GEM-Sciences Po/DEPS, Ministry of Culture and Communication, 2011.

calculations are not based on exactly the same methodologies: in particular, the approach to cultural films is not the same for both markets, as for cinema films they constitute a specific category for analysis, whereas this is not the case for video films.

Despite this caveat, what does the similarity in diversity levels measured in France have to teach us about the film markets for cinema and video recordings?

Diversity of both supply and demand appears to be higher in the cinema film market. However, it is at supply level that the difference between the two markets is most noticeable (1.17 as compared with 0.93). The respective levels for demand are in fact quite close: 0.88 for the cinema film market, and 0.79 for the video recording market (see Figure 5). This fact of course implies that the difference between supply and demand levels is higher for the cinema film market than for the video recording market. This minor gap between the diversity of supply and demand is probably linked to the structural characteristics of the video recording market compared with that for cinema films: intermediation is appreciably more fluid on the video market than it is on the cinema film market, which contributes considerably to the correlation between final supply and demand.

The absence of data about distribution on the video film market means that it is not possible to make complete diversity comparisons with calculations on the cinema film market.

The markets for cinema film and video recordings are differently structured, the distribution of copies to cinemas having no relation to that for video recordings at point of sale. In the absence of any distribution data on video recordings (film releases), in order not to neglect analysis of distribution links, and on the basis of the GfK database (which has a set of data on supply and sales of video recordings from different points of sale), it is worth conducting a new round of diversity calculations on the diversity of the film video recording market based on point of sale type (or distribution channel type).

The Diversity of the Video Recording Market Based on Distribution Channel

The GfK database enables us to run a second wave of extractions on video recordings, which means it is possible to compare diversity (of supply and demand) between the various distribution channels for the year 2005[33]. A breakdown per distribution channel is based on four channels:

– specialist superstores (SSS), covering such companies as Fnac, Virgin, etc. ;
– grocery superstores (GSS), for example the cultural sections or Leclerc, Auchan, etc. ;
– the internet;
– remaining distribution methods(other), such as publishing companies, mail order sales or discount traders.

The film classification system described above was reutilised. The breakdown of films by category means that new frequency and attendance tables could be drawn up, per distribution channel, which will form the basis of a new series of calculations of variety, balance, distance and, ultimately, diversity.

The combination of the three aspects of diversity based on distribution channel is done using Stirling's formula, as applied in the previous section (Table 4).

A series of conclusions can be drawn from the diversity calculations per distribution channel.

Table 4 – Diversity of Supply and Demand per Distribution Channel in 2005

	Diversity of Supply	Diversity of Demand
SSS	0.950	0.92
GSS	0.87	0.75
Internet	0.949	0.90
Other	0.84	0.80

Source: GEM-Sciences Po/DEPS, Ministry of Culture and Communication, 2011.

Demand is Less Diversified than Supply, Especially in GSS

Initially it transpires that diversity of demand is lower than diversity of supply for the four distribution networks. However, the disparity between supply and demand is most noticeable in GSS, where the diversity level of supply is 0.87 but only 0.75 for demand.

33. The fact that online sales were not representative in the GfK 2003 database means that only the 2005 data was used for data analysis based on distribution channel.

SSS and the Internet Compared with GSS and Other Distribution Channels

More specifically, the diversity of films supplied is higher in SSS, just ahead of the internet. Both distribution channels have similar diversity levels. Behind these two channels come GSS, followed by other points of sale. One crucial point stands out: it is vital to distinguish between on the one hand the SSS and the internet and on the other, GSS and other distribution channels.

Diversity is higher for the former, compared with the latter: in SSS and online, there are more films available, supply is more balanced and there are greater differences between the films available than is the case for the two latter channels, where supply is less rich, less balanced and less disparate. The difference in diversity between the two types of distribution channel is even more distinct at demand level.

Diversity of Video Recordings in SSS and Online

The characteristics of both supply and demand within SSS and online are ultimately very similar: films with more varied origins, especially films from third countries, those made in languages other than English or French, better quality films, often independent films or more often heritage films

The principal difference between the two main channels is that variety of demand is higher in SSS than on the internet, reflecting the still quite low internet sales. This point aside, the supply of films in SSS and online are broadly comparable in terms of variety, balance and disparity, and demand for each appears similar in terms of balance and disparity.

The Internet-based Video Recording Market

Several conclusions can be drawn regarding the internet-based video market: firstly, the internet offers a fairly extensive catalogue of films, whereas demand for them seemed still to be relatively low in 2005 (the catalogue supplied is comparable to that of SSS for sales almost three times lower). Moreover, the results of the diversity calculations confirm the view that there is a relatively diverse distribution network, but do not however prove that it offers greater diversity than one might find through the traditional channels (in 2005 at any rate). All in all, the growth of online video sales seems far from posing a threat to market diversity, indeed the opposite seems to be the case. That said, this data dates from 2005 and needs to be updated. It is therefore likely that online demand for films reflects the sociological makeup of those who shop online for videos (e.g. the younger, more educated or more tech-savvy demographic) but these profiles change over time and under the influence of democratisation of online trade.

The Low Diversity of Films Supplied and Particularly Sold in GSS.

Up against the SSS and the internet are the GSS and other distribution channels, with low diversification. They typically supply a high proportion of English-language, American films, generally of poor quality, produced by integrated companies and/or distributed in French cinemas by American studio subsidiaries, and also sequels.

Although the GSS supply is poorly diversified, GSS sales particularly rely on uniform films with little diversity. This fact is even more worrying given that this network represents by far the largest the distribution channel in France, representing half of video recordings sold in France in 2005.

CONCLUSION

We can draw several lessons from the global diversity indicators regarding temporal and geographic issues, allowing us to examine several markets and to understand the various links within the same market.

However, the diversity indicator presented here is experimental and naturally needs improvement: on the one hand, because the method tested is based on subjective views which are open to debate, and which directly determine the results presented; on the other hand, because whilst the indicator gives levels of diversity for the film markets, by country and by year, it does not attempt to explain the recorded divergences. The measurement of diversity aims to simply set out diagnostics, constituting an initial stage before analysing the source of the disparities, which represents a further wave of research.

This exercise is set against a background of mounting interest in and international requirements for cultural statistics[34], and emphasises, beyond the level of diversity in the European cinema market, the diversity of methodologies for measuring this diversity.

Structured around a multidimensional yet subjective film classification system, and around the conception of distance between films in terms of dissimilarity and the combining of the three aspects of diversity (variety, balance and distance) using Stirling's formula, the global diversity indicator enables an immediate and clear reading of the results in terms of market diversity. It promotes awareness of the issue, facilitates arbitration and decision-making and allows evaluation of previously-implemented policies. Indeed, a tool for measuring diversity is indispensable in identifying the threats to market diversity and in determining (or justifying) adapted economic or cultural policies.

34. Several clauses within the 2005 UNESCO Convention on the Protection and Promotion of the Diversity of Cultural Expressions stress the need for cultural statistical indicators at international level. Although the proposed creation of an observatory of diversity of cultural expression was not included in the final version of the Convention, Article 19 nevertheless insists on the "exchange, analysis and dissemination of information". Moreover, under the aegis of UNESCO, expert statistical analysts regularly meet to discuss measuring diversity of cultural expression. Moreover, several other articles of the Convention pose the question of cultural statistics, such as for example Article 9 on Information Sharing and Transparency which defines those reports which the Parties must submit to UNESCO every four years: should and could they include statistics on market diversity and the various threats to cultural expression?

Currently, there are four principal pieces of research dealing with the measurement of cultural market diversity: the first focuses on three products (records, films and books) in eight geographic areas within Europe, Asia, Africa, North America and South America (Stéphanie PELTIER, François MOREAU, *Propositions exploratoires de mesures quantitatives de la diversité culturelle*, a working paper for the French Department of International Cooperation and Development, Paris Ministry of Foreign Affairs, 2002; the second on film in six countries (*id.*, "Cultural Diversity in the Movie Industry: A Cross-National Study", *Journal of Media Economics*, 2004, vol. 17, no 2, p. 123¬143), the third on the book market in France (Françoise BENHAMOU, Stéphanie PELTIER, "Une méthode multicritères d'évaluation de la diversité culturelle :. application à l'édition de livres en France", in GREFFE Xavier (Ed.), *Création et diversité au miroir des industries culturelles*, Paris, Ministère de la Culture et de la Communication/DEPS, coll. "Questions de culture", 2006, p. 313-344) – see also by the same authors, "How Should Cultural Diversity Be Measured? An Application Using from Publishing Industry", *Journal of Cultural Economics*, June 2007 – and fourthly on book publishing in 20 OECD countries between 1979 and 2005 (Françoise BENHAMOU, Renato G. FLORES, Stéphanie PELTIER, *Diversity Analysis in Cultural Economics: Theoretical and Empirical Considerations*, working paper by GRANEM, no 2009-05-17, Université d'Angers, September 2009,on:
http://ead.univ-angers.fr/~granem08/spip.php?rubrique36
[as of 1 July 2010]).Moreover, a group of statistical analysts specialising in measuring the diversity of cultural expression met on two occasions, under the aegis of UNESCO, in particular in Barcelona in December 2008, where it discussed measuring the diversity of cultural expression.

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culture études
ECONOMIE DE LA CULTURE ET DE LA COMMUNICATION
2011-4
Cultural Diversity in the French Book Publishing Industry (2003-2007)
François Moreau et Stéphanie Peltier
La diversité culturelle dans l'industrie du livre en France (2003-2007)

CE-2011-4

Cultural Diversity in the French Book Publishing Industry (2003-2007)

October 2011, 16 p.

Although there has been a marked increase in French publishing output throughout the 2000s, in terms both of annual print runs and titles released, how are we to assess whether this growth is also accompanied by increasingly diverse consumption? Based on Andrew Stirling's three-pronged approach, cultural diversity within three different publishing areas (the youth market, graphic novels and literature) is analysed on three levels: variety produced and consumed, the balance of sales between different titles and the disparity between works and authors read. This analysis provides some responses to the question of how effective fixed book pricing legislation has been in terms of cultural diversity and the leveraging effect of online sales (the long tail theory).

culture études
ECONOMIE DE LA CULTURE ET DE LA COMMUNICATION
2011-5
Cultural Diversity in the French Recorded Music Industry (2003-2008)
Marc Bourreau, François Moreau et Pierre Sendlari
La diversité culturelle dans l'industrie de la musique enregistrée en France (2003-2008)

CE-2011-5

Cultural Diversity in the French Recorded Music Industry (2003-2008)

October 2011, 16 p.

The French music industry has been in crisis since the mid 2000s. As content digitisation increased, sales dropped. How are we to assess the impact of the production and consumption of an industry in crisis on cultural diversity? Following Andrew Stirling's approach, cultural diversity is measured according to three criteria: the variety produced and consumed, the balance of sales across different titles, and the disparity between albums and artists listened to. Analysis shows that the majors have lost out to both small and large independents. It also provides some insights into to the leveraging effect of online sales (the long tail theory) and into the increasing diversity of those sales made by specialist large-scale retailers.

Abstract

The issue of cultural diversity is examined from the point of view of the diversity of the market for films shown in cinemas and films released as video recordings in the 2000s, based on a new sample of 5,600 films shown in cinemas, and 6,500 video film recordings. For both markets, the method used consisted of measuring diversity based on the criteria of variety, balance and range. The issues of increased supply (films), distribution (copies) and demand (number of tickets or video recordings sold) are covered for 6 European countries, namely: France, Denmark, Spain, Poland, the UK and Sweden. The video film market is covered for France only. The method used tends to indicate that France has the most diverse cinema film market, whilst its video film market is considerably less diverse. It confirms differences in diversity according to marketing channels whilst new research shows a higher level of diversity within the internet video film market.

Résumé

La question de la diversité culturelle est abordée sous l'angle de la mesure de la diversité du marché du film en salles et du film en vidéogrammes au cours des années 2000, sur la base d'un échantillon inédit de 5 600 films diffusés en salles et de 6 500 films enregistrés en vidéogrammes. La méthode retenue consiste, pour les deux marchés, à mesurer la diversité à partir des critères de variété, d'équilibre et de disparité. Des éléments d'appréciation de l'offre (films), de la distribution (copies) et de la demande (nombre de billets ou de vidéogrammes vendus) sont proposés pour six pays d'Europe : France, Danemark, Espagne, Pologne, Royaume-Uni, Suède. Le marché du film en vidéo se limite à la mesure du cas français. La méthode testée tend à montrer que la France est le pays où le marché du film en salles est le plus diversifié, mais que le marché du film en vidéo est beaucoup moins diversifié. Elle confirme les différences de diversité selon les circuits de commercialisation et, plus inédit, le niveau élevé de diversité du marché du film en vidéo sur l'internet.

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