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Economic Development of the German Coin-Operated Gaming and Amusement Machine Industry 2007 and Outlook for 2008

Study Commissioned by the German Working Committee of Coin-operated Machines

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1. The German Market for Gambling, Gaming and Amusement

According to the criminal code (§§ 284 ff. StGB) gambling is formally forbidden in Germany but subject to the possibility of authorization. The German Länder are allowed to award licences to pursue policy objectives such as avoidance and containment of illegal gambling and the prevention of accompanying delinquency. These publicly licensed and public companies offer gambling in a monopolistic market. The accreditation of commercial gaming in Germany by federal law serves similar objectives, such as the restriction of market access for the public and publicly licensed operators of gambling. Private business companies are allowed to offer games on amusement machines with prizes (AWPs), but the design of the games is subject to strict rules laid down in the Gaming Ordinance. Public and publicly licensed gambling offers high pecuniary incentives, and heavy losses can be suffered by the gambler in short periods of time. In contrast gaming n AWPs is aimed at people who want to play for little money. Incentives are limited, and unacceptably high losses in short periods (Trade, Commerce and Industry Regulation Act (§ 33e GewO)) are ruled out by the Gaming Ordinance (§§ 12/13 SpielV)

Countering this policy of restricting access to the gambling market, the public and publicly licensed suppliers continuously develop new products to attract clients. With the exception of Thuringia, the lottery companies of all German Länder offer Keno, a new kind of lottery. In 2005 the lottery company of Lower Saxony launched another lottery, “Quicky”. The gambling service is offered via terminals installed on the premises of the restaurant trade. Quicky was designed as a direct competitor to AWPs, which are also located in bars, pubs etc. The lottery company of Lower Saxony tried to attract the clientele of the AWP operators. However Quicky involves higher stakes – between 1 and 5 euros – and jackpots of up to €50,000 provide much higher incentives.

The Higher Regional Court (OLG) in Celle banned the installation of Quicky terminals in the restaurant trade, bars, pubs etc.[1] Public and publicly licensed companies also exploit the opportunities of the more recent communication technologies for gambling, in particular the Internet.

In the past few decades public casinos have experienced strong growth. Especially slot-machines have enjoyed an upsurge. The success story in this market segment is closely related to the expansive strategy of casinos: the opening of new casinos and branches with slot-machines. A new clientele has been targeted, in particular by erecting slot-machine parlours in downtown areas, abolishing dress regulations and offering the opportunity of low stakes. The strategies of the casinos have become more focused on clients with a small purse.

The amusement industry has not been able to keep pace with the public and publicly licensed casinos. The AWPs in amusement arcades and in the bars, pubs have lost shares in the market for gambling and gaming. As far as this market is reported in statistics, the gross revenues of AWPs reached a share of 29% in 1995 and fell to 27.2% in 2003. In fact the loss in market shares was even bigger, because new entrants tapped into the market. Among them are private suppliers of sport betting with licences issued during the final phase of the GDR. These firms operate in a legal grey area and derive their legitimacy from the aggressive business conduct of the public and publicly licensed companies in the market. Between 2000 and 2003 the number of private betting shops tripled and their turnover grew at a similar rate (Graph 1). If one takes this development into account, commercial gaming has lost a greater share in the market for gambling and gaming than that indicated by the available statistics.

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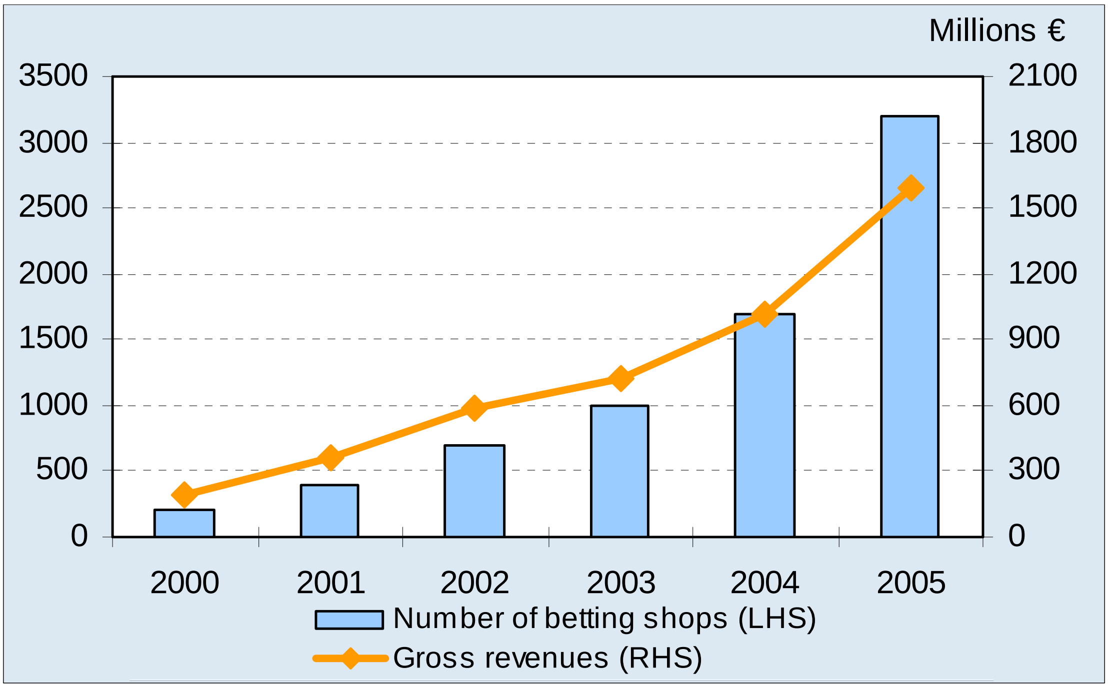
[1] Verdict of the OLG Celle from 5 September 2007 (Az.:13 U62/07); Verdict of the LG Hannover from 15 March 2007 (Az.: 23 O 99/05).

Graph 1: The Private Sports Betting Market



Source: Dr. Norman Albers; Ifo Institute for Economic Research.

In recent years new entrants have made dramatic gains in the gaming and gambling market. Some of them operate in Germany, such as the suppliers and broker of sports betting, whereas the suppliers of online gambling are located primarily in tax havens outside the European Union and exploit the unlimited opportunities of the Internet. For 2003 to 2005 estimations for this market segment are available. They reveal a doubling of their gross revenues in each single year. Because of this upsurge the gambling and gaming market grew overall by an annual rate of nearly 14%, although the public and publicly licensed gambling shrank by 0.3% p.a. and commercial gaming by as much as 3.2% p.a. (Table 1).

Table 1: The Gambling and Gaming Market in Germany
- calculated by gross revenues -

Market segments	1995		2003			2005			Annual average change rate in %	
	bn €[1)]	Market share in %	bn €[1)]	Market share in %		bn €[1)]	Market share in %		1995 - 2003	2003 - 2005
Lotteries and bettings[2)]	4.24	60.4%	5.33	61.7%	56.4%	5.30	62.8%	43.5%	2.8%	-0.2%
Casinos	0.74	10.5%	0.96	11.1%	10.2%	0.94	11.1%	7.7%	3.1%	-1.0%
Commercial gaming	2.04	29.0%	2.35	27.2%	24.9%	2.20	26.1%	18.0%	1.0%	-3.2%
Total 1	**7.02**	**100.0%**	**8.64**	**100%**	**91.5%**	**8.44**	**100%**	**69.2%**	**2.3%**	**-1.1%**
Sports betting private suppliers[3)]			0.15		1.6%	1.50		12.3%		216.2%
Online-Casinos[3)]			0.15		1.6%	0.25		2.1%		29.1%
Lotteries in Media			0.50		5.3%	2.00		16.4%		100.0%
Total 2			**0.80**		**8.5%**	**3.75**		**30.8%**		**116.5%**
Total market			**9.44**		**100%**	**12.19**		**100%**		**13.7%**

1) Calculated by total stakes minus gains paid out.
2) Incl. German Lotto/Toto Bloc, Class- and TV-Lotteries, sweepstakes, sports und horse betting.
3) Based on estimations of DeSIA.

Source: Syndicate and Working Group of German Casinos (Deutsche Spielbanken Interessen- und Arbeitsgemeinschaft (DeSIA)); Ifo Institute for Economic Research.

2. The German Jukebox, Sport-game and Amusement Machine Industry

2.1. Market for Jukeboxes, Sport-game and Amusement Machines

Coin-operated amusement machines comprise three different product groups:

- Amusement machines with prizes (AWPs)[5], which are strictly regulated by the Gaming Ordinance,
- A second group contains gaming machines without prizes, such as touch-screen machines, video games, pinball machines etc. Until the end of 2005 fun games were also part of this category. Since 1 January 2006 – when the new German Gaming Ordinance was put into effect – these once widespread machines have been prohibited.
- A third group includes sport-games machines, such as billiards, darts, table soccer, air-hockey etc.

- A fourth group of machines that gives players the possibility to use their skills to influence the outcome of the game is subsumed under the term "other games" (subject to § 33d GewO). The Federal Criminal Investigation Agency (Bundeskriminalamt) uses the licensing process for these machines in such a restrictive manner that in general the legal regulations have little relevance. There are only very few devices of this sort on the market.

In 2007 a total of 113,450 **jukeboxes, sport-game and amusement machines with and without prizes** were sold on the market. This number is comparable with statistics

[5] AWPs in Germany are typically wall machines.

from preceding years and indicates a growth of 17.7% as compared to the previous year. Since 2007 the market analysis has also comprised Internet terminals installed in amusement arcades and in the restaurant trade. In this new classification the total number of units amounted to 116,450. The market share of the members of the VDAI, the industry's association, is on average about 90% for all machine groups (Table 1). For the most important product group, AWPs, the National Metrology Institute (PTB) recorded 113,154 new licences in 2007. Not all of the approved licences led to sales, which means that the actual market volume was less. The number of sold, rented and leased gaming machines with prizes, which were not only used for tests purposes but have been installed on a long-term basis, was around 108,000 in 2007, amounting to an increase of 19.7%. Even last year soaring sales were induced by the new Gaming Ordinance put into effect on 1 January 2006, because it enforced a structural change in the industry's supply which could not be accomplished within only one year.[6]

At the end of 2005 around 80,000 fun games were installed, which were then banned as of 1 January 2006. Fun games are amusement machines with the issue of tokens. They were developed from AWPs based on British or Dutch legislation and were well-received by clients. The speed of the games made them particularly attractive. Cycles of only a few seconds and absorbing sequences are the reasons players give for choosing fun games instead of AWPs, games that take longer. But fun games were not only used within the regulations. To a certain extent they were abused by black sheep in the industry to provide illegal gambling opportunities. Since 1993 the industry has tried to prevent the abuse of fun games. Among other measures the industry's associations launched an initiative together with the German Institute for Standardization (Deutsches Institut für Normung e.V. (DIN)). In 2002 a Publicly Available Specification (PAS) was

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[6] See: H.-G. Vieweg, Wirtschaftsentwicklung Unterhaltungsautomaten 2006 und Ausblick 2007, München January 2007, pp 23.

developed.[7] But the initiative did not turn out to be entirely successful. It was not possible to fully stop the abuse of fun games for banned gambling. Moreover in some regions the public administration of fun games became more and more restrictive. In a decision of 23 November 2005 the Federal Administrative Court of Germany (Bundesverwaltungsgericht) evaluated fun games as amusement machines with prizes in accordance with §33 c GewO. Their installation is illegal due to lacking type approval and because they very often exceed the maximum number of AWPs that is allowed to be installed in an amusement arcade.[8]

Because of this legally precarious situation the amusement machine industry's association accepted the ban of fun games in the draft for the new Gaming Ordinance (§ 6a SpielV). However in good time the association of wholesalers pointed to the need for an interim solution to cope with the necessary reduction in capacities.[9] The situation of the industry became even worse because the new Gaming Ordinance that went into effect on 1 January 2006 was not published in the Federal Law Gazette (Bundesgesetzblatt) until 23 December 2005. Hence it was not possible to replace the dismantling of fun games by investment in AWPs based on the new Gaming Ordinance until early in the summer of 2006.

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7 PAS means that players in the market agree on common standards for fun games which they make known to all market participants, as for instance CEN/CENELEC. Such a standard is not an authoritative obligation, because those stakeholders in the market who are not members of a public standardization committee are not bound by an agreement. However a PAS agreed upon by important stakeholders in the market is de facto a benchmark for all players and thus becomes quasi obligatory. The advantage of such a self-regulatory measure lies in the possibility of a timely introduction of a PAS without much administrative effort.

8 Sentence of the Federal Administrative Court of Germany from 23 November 2005, Az. 6 C 8.05 and 6 C 9.05.

9 Konrad Redeker, Wolfgang Roth; Zur Notwendigkeit einer Übergangsfrist bei der Einführung eines gesetzlichen Verbots so genannter „Fun-Games“, Legal advice commissioned by the German Association for Wholesaling of Coin-operated Machines (Deutscher Automaten-Großhandels-Verband e.V. (DAGV), Bonn, 21 January 2005.

From 28 August to 10 December 2006 an empirical study was carried out to investigate the supply of legal and illegal games. It was revealed that only from August 2006 onward has nationwide investment in the new generation of AWPs taken place. Their number increased by 1.85 from 8.28 to 10.13 machines per concession for the operation of an amusement arcade.[10] Neither the maximum number of 12 AWPs per arcade concession was exploited nor the majority of machines developed under the new Gaming Ordinance.

On 31 December 2005, on average per arcade concession, around 8.3 fun games were installed. Within one year the average number was reduced by 5 machines down to 2.7 fun games according to Empirical Study 1. If the reduction of fun games is offset by the increase in AWPs, the average number of installed machines per amusement arcade was been reduced by 3.75, as calculated on the basis of the number of concessions.

The structural change in the supply of jukeboxes, sport-game machines, amusement machines with and without prizes was not concluded until the beginning of 2007. Heavy investment in AWPs of the new generation continued throughout the year. The demand grew by 19.7% up to 108,000. This investment led to a further increase in the number of AWPs up to 10.59 per arcade concession. Despite the procurement of new machines the number of AWPs has remained well below the maximum number of 12 admitted by the new Gaming Ordinance.[11] The exchange of old AWPs for new ones has not yet been fully concluded. This situation indicates that there is further need for investment in a new generation of AWPs. The industry expects a saturation of the market in 2008.

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[10] Jürgen Trümper (ed), Alles beim Alten?! Folder of the working group against pathological gaming for the nationwide conference held in Unna, 9 November 2006, Unna, January 2007 (period of investigation: August to December 2006, p 48. Subsequently this study will be quoted as Empirical Study 1).

[11] Jürgen Trümper (ed), Umsetzung der novellierten Spielverordnung – Examination of research results, Berlin, September 2007 (Period of investigation May to July 2007 – Subsequently this study will be quoted as Empirical Study 2); commissioned by Forum Marketing-Service GmbH, Berlin.

AWPs are no longer the traditional amusement machines displaying gaming results on discs. Newly created feature games supply a broad repertoire of games offering winnings for the successful completion of complex gaming processes. There are different levels of skill linked to different levels of winnings. Moreover video games offer 20 or more three-dimensional games with more exciting plots. These new products attract a broad public and are utilized to a higher degree than the old AWPs. Although their revenues on average are below 20 euros per hour, these newly designed machines take in higher cash amounts than their predecessors based on the old Gaming Ordinance valid until 31 December 2005 with revenues significantly higher than 20 euros per hour but a much lower utilization of capacities.

The introduction of AWPs based on the new Gaming Ordinance has accelerated the dissemination of advanced information and communication technologies. The newly designed machines are controlled by software and usually contain many different games. These so-called multi-gamblers provide a broad range of games with prizes and by that help to reducing bottlenecks during rush hours. This is an important issue, because the ban of fun games has induced a significant reduction in the number of machines installed on average per amusement arcade.

Table 1: Market for jukeboxes, sport-game and amusement machines with and without prizes

Type of machine	Market volume			
	2005 a) Units	2006 a) Units	2007 b) Units	2007 / 2006 b) Change in %
Amusement machines c)			**406**	
excluding Internet terminals	***400***	***470***	***406***	***-13,6***
Pinball	190	230	250	8,7
Internet-terminals etc. c)			6,000	
Score games etc. d)	*12,150*	*3,400*	*3,000*	*-11,8*
Video games	210	240	150	-37,5
Amusement machines with prizes (AWP) e)	**70,300**	**90,200**	**108,000**	**19,7**
Sport-games machines	377	573	510	-11,0
Soccer	305	480	400	-16,7
Billiards	180	240	150	-37,5
Darts	865	1610	1,500	-99,9
Total f)			**1.024**	
excluding Internet terminals	***847***	***1.133***	***1.024***	***-9,6***

a) Extrapolation of the market volume based on the sales of the members of the industry's association VDAI.[f)] For AWP machines the figures are based on the newly granted licences of the PTB for the total year.
b) Estimations of the Ifo Institute.
c) The figures comprise not only score games, but touch-screen machines, juke boxes and other amusement machines.
d) Product group c) excluding Internet terminals.
e) The newly granted licences by the PTB are used for the estimation of the market volume, reduced by a share of 5% (long-term average of licences not used for the permanent installation of AWPs).
f) The market share of the members of the VDAI is at around 90%; with AWPs at around 95% (nearly the same amount of jukeboxes, sport-game and amusement machines are purchased by the operators as are rented and leased).

Source: PTB; VDAI; calculations of the Ifo Institute.

2.2. Number of Installed Machines in Germany

The associations of the German amusement machine industry maintain records of the amusement machines installed every year. The machines recorded are not only those supplied by member businesses but also those from other manufacturers, distributors and direct imports. They comprise the number of installed jukeboxes, pinball, sport-games and amusement machines with and without prizes. Since 2007 the number of Internet terminals delivered to amusement arcades, bars and restaurants has also been included. The total number of installed machines came to 360,500 (Table 2).

For many years now there has been a reduction in capacities. Between 2002 and 2005 the number of installed machines shrank by 33,500 units. This amounts to an annual decline of 2.9% per annum. In 2006 the number of amusement machines was reduced by 42,000 units, more than in any other year since the statistics have been available. This massive disinvestment of 12% in only one year was induced by the ban on fun games as part of the new Gaming Ordinance that went into effect on 1 January 2006. Around 60,000 fun games had to be removed immediately although a simultaneous replacement by new AWPs was not possible. Gaming machines homologated under the new Gaming Ordinance were made available only during the summer of 2006. Moreover the maximum number of AWPs under the new Gaming Ordinance was restricted to 12 units, an increase of only 2 units from 10 AWPs under the preceding law.[12] However, on average, between 8 and 9 fun games per amusement arcade had to be dismantled at once.

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[12] In the drafts of the Gaming Law discussed in 2004 und 2005 it was originally planned that up to 15 AWPs could be installed in amusement arcades. Additionally, two multi-user AWPs with six places each were envisaged to be permitted. This total of 27 playing places was planned, among other reasons, as compensation for the fun games prohibited in the Gaming Law. In the course of the political decision-making process, the multi-user amusement machines were deleted and the maximum number of AWPs was reduced by the Federal Assembly (Bundesrat) to an upper limit of 12 machines. As a result only an increase of two machines with prizes vis-à-vis the old Gaming Law, i.e., from 10 to 12 was allowed.

Most of the fun games were dismantled in 2006 but it was only in 2007 that the disinvestment was nearly concluded. Accordingly, the number of installed amusement machines without prizes sank by another 6,500 units, whereas the number of installed AWPs grew at a double-digit rate. Based on the traditional classification of amusement, sport-games, pinball machines and jukeboxes, excluding Internet terminals, the total stock rose to 335,500 as of 31 December 2007. This was the first time in years that this number increased. The experts of the industry expect that the lower turning point has been passed and that in 2008 the number of installed machines will continue to increase. This is because the dismantling of the fun games has been concluded and there is still some space for the installation of the new generation AWPs, which have been well received by their clients. Moreover an upward development is also expected for pinball machines, Internet terminals and sport-games machines. (Table 3)

Table 2: Installed amusement machines and sport games machines

Type of machine	Number of machines [a), b)]					
	2002	2003	2004	2005	2006	2007
Amusement machines without prizes						**85**
excluding Internet terminals	*140*	*134*	*129*	*126*	*66*	*60*
Pinball machines	27,000	25,500	25,500	25,500	25,700	25,900
Internet terminals etc. [c)]						45,000
Score games etc. [d)]	*95,000*	*92,000*	*89,000*	*87,000*	*27,000*	*20,000*
Video games	18,000	16,000	14,000	13,000	13,300	13,600
With prizes	**192,000**	**187,000**	**184,000**	**183,000**	**200,000**	**220,000**
Sport-games machines [e)]	**65,000**	**60,000**	**57,000**	**55,000**	**55,500**	**56,000**
Total						**361**
excluding Internet terminals	*397*	*381*	*370*	*364*	*322*	*336*

a) The estimated number of all machines as of 31 December is based on surveys for the entire market.
b) The figures include machines of non-VDAI members (estimated) and all those sold, rented and leased.
c) Inclusive score games, touch-screen machines, jukeboxes and other amusement machines.
d) Equals product group c) minus Internet terminals.
e) Billiard, dart, table soccer, skittle alleys, air hockey etc.

Source: VDAI; calculations of the Ifo Institute.

2.3. Turnover of the Amusement Machine Industry

The amusement machines industry is divided into three sectors: machine manufacturers, wholesalers and operators. Since 2007 the statistics also include Internet terminals installed in amusement arcades, bars and restaurants. The added turnover of all three sectors amounted to a total of €4.18 billion. Based on the previous classification total turnover, it came to €4.08 billion in 2007 and surpassed the preceding year by 9.1% (Table 3).

The machine manufacturers have enjoyed strong growth for the third year in a row. A total plus of 47% was achieved in 2007 as compared to 2004. Their turnover by sales, renting and leasing of amusement and sport-games machines (excluding Internet terminals) grew by 16.6% in 2007. The wholesale distributors experienced a somewhat slower expansion of 9.8%, because direct lease and rent by manufacturers has become more important. The total market value of amusement and sport-games machines (including Internet terminals) was €880 millions 2007. Last year the propensity to invest was extremely good. The new gaming machines are highly attractive and strong interest in the investment in AWPs homologated under the new Gaming Ordinance will continue.

2006 was marked by the implementation of the new Gaming Ordinance. The operators had to disinvest all their fun games without any transitional arrangement. Opportunities for compensation were lacking.[14] Until early summer manufacturers and wholesalers

[14] H.-G. Vieweg; Wirtschaftsentwicklung Unterhaltungsautomaten 2006 und Ausblick 2007, München, January 2007, pp 23.

were not able to make AWPs available that were designed in line with the improved regulation. As a result the operators' turnover plunged. It was only in late summer that they were able to expand their businesses considerably and regain lost market shares. However, on average for 2006 total turnover fell short of that of the preceding year by more than 7%. The operators enjoyed a gain of 17% with AWPs, but with other amusement machines they suffered a setback of 75% because of the ongoing disinvestment of fun games.

Since 2007 the institutional conditions have been improved by the new Gaming Ordinance. The turnover for AWPs increased by another double-digit rate, by 12.7%. Simultaneously the turnover with other amusement and sport-games machines was halved. But this did not have much effect on the overall expansive development. All in all the turnover of the operators grew by 8.1% and just reached the level of the years 2004 and 2005.[15]

Up to now it remains questionable whether the new Gaming Ordinance has provided an institutional framework with the potential to reverse past trends. Between 1996 and 2003 commercial gaming lost shares in the gaming and gambling market, by 7%. Turnover with AWPs only grew by an average annual rate of 0.5% over the same period. This development was extremely sluggish as compared to the expansion of the overall leisure time expenditures of private households, which increased by 1.8% on average p.a.[16] A turnaround in the economic trend induced by the new Gaming Ordinance would mean that in the long run operators' turnover with AWPs should grow at a similar pace as leisure time expenditures. For 2008 the operators have an upbeat

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[15] Strong growth has not improved the operators' economic situation because since 1 January 2007 the value added-tax has been increased by three percentage points up to 19%.

[16] H.-G. Vieweg, Die Unterhaltungsautomatenwirtschaft – Chancen in einem dynamischen Markt?, in: Taschenbuch der Automatenwirtschaft 2008.

outlook and expect further strong growth, but only if this expansionary development continues for a couple of years will it be justified to speak of a trend reversal.

Table 3: Turnover of the amusement machine industry

Branch	In million euros 2004	2005	2006	2007
Total (non consolidated) [c]				***1.083***
excluding Internet terminals	*1.492*	*1.522*	*993*	*983*
Total turnover with machinery [c]				**880**
excluding Internet terminals	*620*	*670*	*770*	*870*
Manufacturers (own production & imports) [a), b)]	285	310	360	420
Wholesale distributors [a), b)]	335	360	410	450
Operators [c) d)]				**203**
excluding Internet terminals	*872*	*852*	*223*	*113*
Amusement machines with prizes [d) e)]	2,330	2,350	2,750	3,100
Amusement machines without prizes and sport-game machines				200
excluding Internet terminals	*870*	*850*	*220*	*110*

a) Also includes turnover from exports and from rented and leased machines.
b) Also includes estimates of imports from non-members of the VDAI.
c) Including Internet terminals from 2007 onwards.
d) Income of operators = cash payments including innkeeper's share and VAT, amusement tax, etc.
e) The numbers are not comparable with the turnover statistics for 2001 as the turnover includes an amount estimated at €25 million per year for payment of jackpots not connected with amusement machines with prizes. This amount must be subtracted to determine the comparable turnover of the operators.

Source: VDAI; calculations of the Ifo Institute.