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Economic Development of the German Coin-Operated Gaming and Amusement Machine Industry 2010 and Outlook for 2011

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

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TABLE OF CONTENTS

1. The German Jukebox, Sport-games and Amusement Machine Industry

1.1. Market for jukeboxes, sport-games and amusement machines

Coin-operated amusement machines comprise basically four different product groups:

- The most important product group consists of amusement machines with prizes (AWPs), which are subject to a comprehensive public regulation.
- A second group contains gaming machines without prizes, be it cash or goods prizes. These are machines such as score games, touch-screen machines, video games, driving simulators, pinball machines etc. This category also includes fun games that pay out tokens. Since 1 January 2006 – when the new German Gaming Ordinance was put into effect – these once widespread machines have been prohibited. The prohibition of fun games has led to a reduced number of machines installed in amusement arcades.
- A third group consists of sport-games machines, such as billiards, darts, table soccer, air-hockey etc.
- A fourth group comprises Internet terminals that have been introduced to the market in significant numbers since the middle of the last decade. They provide controlled access to the Internet without any specific entertainment content. First and foremost, the installation of these terminals is devoted to attracting new client groups that have not yet been exposed to amusement arcade games.

A fifth 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 Art. 33d of the German Trade, Commerce and Industry Regulation Act (GewO)). The Federal Criminal Investigation Agency (*Bundeskriminalamt*) uses the licensing process for these machines in such a restrictive manner that this product group is nearly irrelevant.

For the product group **AWP**, the National Metrology Institute (PTB) records the number of new approvals. In the past its statistics were applied as an indictor for the investment in AWPs. Until 1 January 2006, the number of new approvals was used to depict the long-term development of the market for AWPs. Since then, these figures no longer reflect the sale of AWPs, but the sale and exchange of software packages. Due to the introduction of advanced technology there is no longer a stable relationship between the sale of hardware and software. Thus sales statistics based on PTB figures have become meaningless.[1]

In recent years the dissemination of video-based AWPs in the market has increased sharply. They include a broad range of games that were only partly developed by German manufacturers. To a large extent the companies use the globally available supply of software based games offering a broad spectrum of entertainment. Hence games can easily be changed by installing new software without replacing the box. With the introduction of video-based AWPs, leasing and renting of machines have gained a prominent role in the market. Granting of licences and software has been expanded at the expense of selling.

AWPs are no longer the traditional wall-hanging amusement machines that display gaming results on rotating discs. Newly created feature games supply a broad repertoire of games that offer winnings for the successful completion of complex gaming processes. Different levels of skills are linked to different levels of winnings.[2] In addition, a video-based AWP can offer 20 or more three-dimensional games with exciting plots, so-called multigamers. They enable amusement arcade operators to offer a more diversified supply of games than before 1 January 2006. In peak hours, some bottlenecks are to be expected, but this is not as common as before the new Gaming

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1 For a comparison of the number of AWP sales and the number of approvals of software packages, see: H.-G. Vieweg, *Economic Development of the German Coin-Operated Gaming and Amusement Machine Industry 2009 and Outlook for 2010*, February 2010, Munich, p. 3.

2 The PTB’s Technical Directive (TR) 4.1 stipulates that winning prospects of more than € 1,000 may not be displayed by AWPs. According to most recent information, the replacement of AWPs that do not fulfil this provision was largely concluded by 1 January 2011.

Ordinance was put into force; now a client usually finds an AWP with the game of his choice.

These new AWPs are attracting a broad public. A growing number of women, for example, now enjoy gaming. The share of women amongst all attendees at AWPs – a former domain of male clients – has risen from 10.3% in 2007 to 13.8% in 2008 and from 16.7% in 2009 up to 19.9% in 2010. Moreover, the survey reveals that among visitors of amusement arcades, women are, contrary to expectations, even more active gamers than men.[3]

1.2. Number of installed machines in Germany

The associations of the German amusement machine industry maintain records of the amusement machines installed as of the end of each year. The machines recorded are not only those supplied by member businesses but also those of other manufacturers and distributors, it comprises not only domestic production but also imports. The statistics comprise the number of installed jukeboxes, pinball machines, 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.

For many years there has been a reduction in the number of the installed music, sport-games and amusement machines with and without prizes. This development has been the result of the economically difficult situation for the operators that they were confronted with up to the end of 2005. Commercial gaming competes with the wide variety of gambling forms offered by public or private companies with public concessions and it steadily lost market shares over a long period of time. This fact

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[3] J. Trümper, *Umsetzung der novellierten Spielverordnung – Feldstudie 2010*, August Berlin, 2010, p. 40.

prompted the Federal Ministry of Economics (BMWi), in autumn 2000, to start a structural reform of the Gaming Ordinance, which was not concluded until the end of 2005.[4] Since 1 January 2006, the amusement machine industry has been working under the more favourable framework of the new Gaming Ordinance, which now provides scope for the exploitation of the possibilities of advanced information and communication technologies. Since 2006 the amusement machine industry in Germany has been enjoying the advantageous framework conditions similar to those enjoyed by other European countries for some time now.

In 2005, the number of installed AWPs bottomed out at 183,000 units. This was 62,000 AWPs less than in 1995 when there were 245,000. Since the new Gaming Ordinance has come into force, the number of AWPs has grown strongly, reaching 235,750 on 31 December 2010, but it has yet to reach the level of 1995. As compared with the preceding year, some of the momentum has been lost. In 2010 the number of installed machines expanded only by 3.9%, in 2009 the growth rate had been 5.1%. Since the new Gaming Ordinance (SpielV) came into effect on 1 January 2006, the framework conditions for commercial gaming have improved, although the so-called fun games, amusement machines with disbursement of tokens, were prohibited and had to be completely dismantled (§ 6a SpielV). Likewise all the jackpot machines, used for marketing purposes only by operators of amusement arcades, had to be removed (§ 9 Abs. 2 SpielV). The removal of fun games – a product group within the score games segment – of which around 80,000 had been installed, turned out to be a major logistic challenge for operators. When the new Gaming Ordinance became effective the manufacturers were unable to provide either the necessary number of AWPs to replace fun games or a product range with a satisfying diversity of games. This bottleneck in

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4 H.-G. Vieweg, *Wirtschaftsentwicklung Unterhaltungsautomaten 2000 und Ausblick 2001*, München 2001, p. 17.

deliveries was caused by the fact that the new Gaming Ordinance was not adopted until December 2005 and became effective on 1 January 2006.[5]

The removal of fun games has been largely completed. If they are still in use, they are concentrated regionally and in specific locations.[6] This is due to difficulties in isolated cases and problematic regions that could not be overcome by the numerous initiatives on the part of the commercial gaming sector associations (manufacturers, trade and operators) to encourage all industry stakeholders to meet the provisions. In these cases the local authorities are called upon to enforce the legal provisions of the Gaming Ordinance.

The removal of fun games, prohibited since 1 January 2006, gave the operators freed-up space for the installation of additional amusement machines. Above all, the AWPs designed in line with the new Gaming Ordinance have benefited. In contrast to the Gaming Ordinance valid until the 31 December 2005, twelve instead of hitherto ten AWPs are permitted per amusement arcade – insofar as sufficient space is available – at least $12m^2$ per AWP. In restaurants and bars, three instead of only two AWPs are permitted. The premises' operators have to ensure continuous monitoring in order to prevent minors from gaming. If three AWPs are installed, additional technical devices are required to hinder access to minors. In addition, the new AWPs have proven to be extremely attractive resulting in the substitution of amusement machines without prizes. Along with AWPs, only Internet terminals have shown an upward trend in the number

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5 H.-G. Vieweg, *Wirtschaftsentwicklung Unterhaltungsautomaten 2006 und Ausblick 2007*, Munich 2007, pp. 23ff.

6 Fieldwork carried out annually revealed that in 2005 on average around 8.3 fun games were installed per amusement arcade licence. This amounts to a total number of approximately 80,000 fun games in Germany. In the follow-up study of 2008, there were only 0.3 fun games per amusement arcade licence (see: J. Trümper, *Umsetzung der novellierten Spielverordnung – Feldstudie 2008*, Berlin 2008, p. 20). By mid-2009 the indicator had shrunk to 0.14 (see: J. Trümper, *Umsetzung der novellierten Spielverordnung – Feldstudie* 2009, Berlin 2009, p. 24) and in 2010, the indicator was close to zero or 0.075 fun games per amusement arcade licence (see: J. Trümper, *Umsetzung der novellierten Spielverordnung – Feldstudie 2010*, Berlin 2010, p. 24).

of installed devices. However, recently this upward trend has come to an end. All other product groups have suffered losses over a long period. In total, the number of installed amusement machines without prizes and sport-games machines has declined in recent years (Table 1).

Table 1: Installed amusement machines and sport-games machines

Type of machine	Number of machines [a), b)]			
	2007	2008	2009	2010
Amusement machines without prizes	**49,700**	**42,750**	**39,150**	**38,200**
Pinball machines	2,400	2,350	2,300	2,250
Internet terminals etc.	14,500	20,000	22,500	22,000
Score games etc.[c)]	20,000	9,000	3,850	3,650
Video games	12,800	11,400	10,500	10,300
with prizes	**207,000**	**216,000**	**227,000**	**235,750**
Sport-games machines [d)]	**25,000**	**24,000**	**23,000**	**22,300**
Total	**281,700**	**282,750**	**289,150**	**296,250**

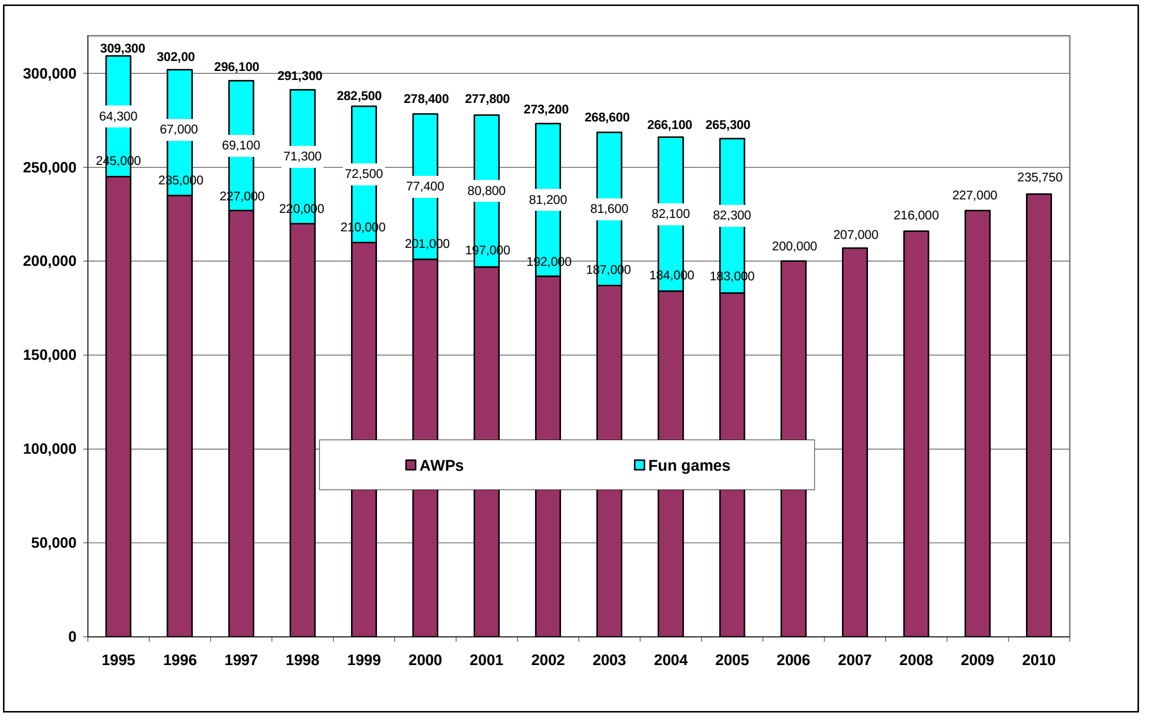
a) The estimated number of all machines as of 31 December is based on surveys of the VDAI for the entire market and on other available empirical studies.
b) The figures include machines of non-VDAI members (estimated) and all those sold, rented and leased.
c) Score games, touch-screen machines, juke boxes and other amusement machines.
d) Billiard, dart, table soccer, skittle alleys, bowling, air hockey etc.

Source: VDAI; Arbeitskreis gegen Spielsucht e.V.; FfH Institut für Markt- und Wirtschaftsforschung; calculations of the Ifo Institute for Economic Research.

The dynamic upward trend of the past few years should not obscure the fact that the industry as measured by the number of installed AWPs, amusement machines without prizes and sport-games machines, experienced a strong decline in the number of installed machines for an entire decade, from 1995 to 2005. Even AWPs, which – based on provisional calculations – since 2005 underwent a rise of 52,750 installed machines by 31 December 2010 have not yet reached the level of 1995.

The industry expects 2011 to be a year of consolidation with only slight growth, if any. From what we know today it cannot be ascertained if the number of installed AWPs will reach the 1995 level in the near future. Figure 1 shows in addition to the development of the AWP inventory that of fun games. Although clients were strongly attracted by fun games, they had to be removed immediately after the new Gaming Ordinance was put in force on 1 January 2006, because of their potential use for illegal gambling.

Figure 1: Installed AWPs and Fun Games 1995 to 2010



Source: Ifo Institute for Economic Research.

The overall view does not show that there were different developments in various market segments. Since 2006 amusement arcades have strongly expanded their capacities, whereas in restaurants and bars the number of AWPs has been further reduced in line with the long-term trend. Between 2008 and 2010, the number of AWPs in amusement arcades grew by around 20,000 while in bars and restaurants their number only stopped falling further.

Even within both of these market segments, significant differences can be seen. In gastronomy (in a narrower sense), the traditional locations in restaurants and bars, the number of AWPs has shrunk, although at present three instead of two machines are permissible in each establishment. Newly designed AWPs for use in gastronomy – derived from video-based AWPs designed for amusement arcades – have been brought on the market. These multigamers are replacing the traditional electro-mechanic AWPs. A positive development has started in a new market segment: airports, railway stations, motorway service areas and other public interchanges have become promising locations for the installation of AWPs. The operators' business with these highly frequented sites has been growing strongly in recent years and investments in new locations are underway. This upward development, however, has only been sufficient to slow down the overall negative development in gastronomy. It has not exhibited enough momentum to result in an upturn. This market segment is of limited size only.

In the market segment of amusement arcades, a tendency towards larger premises based on multiple concessions can be observed. Many of these new amusement arcades are an integral part of leisure-time facilities that additionally comprise cafés, cinemas, bars etc. This development has contributed to a better public acceptance of amusement arcades and has become part of a changing supply side.[7] These new locations are gaining market shares, whereby smaller amusement arcades – with only one or two concessions – are being challenged. They are pursuing strategies dedicated to benefiting from local specifics or from individual services. Those not able to meet the challenge have to shut down their premises. A structural change is taking place. The perception of this development by the public is asymmetric. The newly opened larger amusement arcades

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[7] These bigger amusement arcades are well equipped. They offer the latest amusement machines in a tasteful ambiance and employ well-qualified staff. Women are especially attracted to these arcades. See Jürgen Trümper, *Umsetzung der novellierten Spielverordnung – Feldstudie 2009*, Berlin, September 2009, pp. 20, 41.

have been perceived by a broad public, whereas the disappearance of the smaller arcades is a low-key event.[8]

Last year it was assumed that the decreasing stimuli from the new Gaming Ordinance for investment in AWPs will induce operators to invest in other amusement machines and stop the long-term decline of installed capacities. However, in the meantime the framework conditions for the sector have worsened. Above all two factors are of importance:

- The objectives pursued by the amendment of the Gaming Ordinance to enable commercial gaming to compete with the publicly held or publicly-licensed quasi monopolistic suppliers of gambling and the supply in the Internet have been widely achieved. As a consequence the number of installed AWPs has strongly increased. Notwithstanding that the number of installed AWPs has not yet reached former levels and additionally around 80,000 fun games had to be removed without any compensation, the critics of commercial gaming construe the development in recent years as a gain of shares in the gaming and gambling market. However, of crucial importance for the loss of market shares of public and publicly-licensed suppliers of gambling have been the provisions of the Interstate Agreement on Gambling (GlüStV) put into force on 1 January 2008 and not commercial gaming. Casino clients – not only seeking access to traditional casino games but also to slot-machine parlours – have to pass through admission controls and identity is checked against a list of banned gamblers. This provision has turned out to be disadvantageous for casinos and has contributed considerably to their losses in market shares. Many gamblers who

[8] Inspections carried out in connection with fieldwork providing updates on the implementation of the new Gaming Ordinance showed that in 2009 and 2010, 82 out of 2,000 or 2,450, respectively, of the visited arcades which had been in operation the previous year were now closed because the business had been given up, due to renovations or moving to another site. See Jürgen Trümper, *Umsetzung der novellierten Spielverordnung – Feldstudie 2009 (2010)*, Berlin, September 2009 (2010), each issue p. 70.

are refused entry to casinos turn to the Internet; or even illegal betting gambling offers. Despite this, casino representatives have used this development as a reason to complain about insufficient regulation of commercial gaming. They are calling for even stricter regulation than has already been put into force for the amusement machine industry.

- Public authorities show a growing interest in increasing municipal entertainment taxes. In particular the city states of Berlin, Bremen and Hamburg that have strong self-interest in a flourishing business of their casinos have raised or will raise the entertainment tax drastically within a short period. This has put a strain on operators' profitability. In some of the other Länder similar tendencies have been observed. The entertainment tax has been increased in some communities up to 20% of gross revenues. The town of Mengen in Baden-Württemberg has even raised the entertainment tax up to 25% whereupon the operators of concerned amusement arcades immediately shut down their premises and filed a suit against the town.

These developments have led to growing insecurity with regard to the amusement industry's framework conditions. Investors have become cautious and projects for new arcades have been shelved. The readiness of banks to fund new projects has declined and financing conditions have worsened in the course of an emotional public debate.

1.3. Turnover of the amusement machine industry

The amusement machine industry is divided into three sectors: machine manufacturers, wholesalers and operators. In 2010, their non-consolidated turnover reached €5.14 billion. Since 2007, statistics also include Internet terminals dedicated for installation in amusement arcades, bars and restaurants. In 2010 total turnover grew by 5.8%. As in previous years, the manufacturers' turnover grew more than proportionately, by 7.5% (Table 2).

In 2010 machine manufacturers' turnover was not only been driven by the sale of AWPs and innovative games. An important factor was the obligation of the amusement industry to convert AWPs to conform to the Technical Directive (TR) 4.1 by 1 January 2011. The necessary activities triggered a soaring number of approvals for gaming software packages. Their total number in 2010 reached 253,405, approximately five times as much as in the previous year. The costs for the operators to fulfil this obligation amounted to around € 20 million, a considerable burden for them.

In recent years the investment boom in the amusement machine industry was driven above all by the substitution of AWPs based on the Gaming Ordinance valid until 31 December 2005 with AWPs in accordance with the Gaming Ordinance put into force on 1 January 2006. In addition to the replacement of old AWPs, investment in additional capacities was carried out. As already mentioned, twelve instead of ten AWPs per amusement-arcade concession are now permissible if sufficient space is available (12m^2 per AWP); in gastronomy three instead of two AWPs are allowed if devices for the protection of minors are available. In amusement arcades the number of installed AWPs per concession has reached 11.05 on average. At locations with three and more concessions this indicator even lies between 11.5 and 11.9.[9] Therefore a substantial expansion in the supply of AWPs requires above all investment in new amusement arcades. Currently the adjustment in the stock of amusement machines induced by the new Gaming Ordinance is reaching a conclusion.

Technical progress in combination with the new Gaming Ordinance has led to new concepts for the design and marketing of AWPs. They have also led to a detachment of hardware, the box, and software that can be marketed separately. However, conceptual and technical changes of AWPs are strictly regulated by the Gaming Ordinance. Although the law requires that software packages must be approved together with the AWP-hardware by the PTB, new software packages can replace predecessors if the

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[9] See Jürgen Trümper, *Umsetzung der novellierten Spielverordnung – Feldstudie 2010*, Berlin, August 2010, p. 26.

software-package has received the design approval for the hardware available to the operator. There is no longer a need to exchange a complete AWP if the operator wants to offer new games to his customers. However, all conceptual and technical changes are strictly regulated by the new Gaming Ordinance. The new generation of electronically controlled AWPs guarantees the long-term reliability of limit values required by the Gaming Ordinance. As a result, their lifespan is no longer limited by law as was the case with their mechanically controlled predecessors. Gaming machine tests – to be carried out by certified officials – are required by law every two years.

Table 2: Turnover of the amusement machine industry

Branch	In million euros			
	2007	2008	2009	2010
Total (non consolidated) [a)]	**4,120**	**4,500**	**4,860**	**5,140**
Total turnover with machinery [a),b)]	**885**	**975**	**1,040**	**1,090**
Manufacturers (own production & imports) [a), b)]	430	485	530	570
Wholesale distributors [a), b)]	455	490	510	520
Operators [c)]	**3,235**	**3,525**	**3,820**	**4,050**
Amusement machines with prizes	3,050	3,370	3,700	3,940
Amusement machines without prizes and sport-games machines	155	105	65	60
Internet terminals	30	50	55	50

a) Manufacturing companies and wholesale (Sales, renting and leasing of amusement machines and software-packages, incl. licensing fees).
b) Also includes estimates for imports from non-members of the VDAI and turnover from exports of German manufacturers.
c) Income of operators = cash payments including innkeeper's share and VAT, entertainment tax, etc.

Source: VDAI; calculations of the Ifo Institute.

As technical changes have progressed, the manufacturers have adapted their distribution channels and concepts. Leasing and renting have gained importance. There are manufacturers that sell the hardware and rent the software. Others only rent complete systems, consisting of hardware and software. On the one hand, the manufacturers' cash flow has become steadier and is to a lesser extent dependent on the operators' investment cycles. Capital endowment and refunding have become more important topics for manufacturers with the redirection of their business. On the other hand, renting and leasing payments cause permanent liquidity outflow that induce operators to closely watch the profitability of installed AWPs. Contracts for software packages can easily be cancelled and the replacement of non-attractive games has been accelerated.

The changes in the manufacturers' business models have given rise to some challenges for the wholesale sector. Traditionally, amusement machines were sold via the trading firms but now sales have lost importance. Renting and leasing is not an adequate substitute and commissions are not sufficient to compensate for losses in sales of AWPs. Wholesale firms, which consist of companies affiliated to manufacturers and independent medium-sized enterprises, have to exploit other business areas. Financial services, maintenance, repair and overhaul of machines provide opportunities that incorporate the potential to at least partly compensate for losses in sales of AWPs. Moreover, other corporate services, such as technical and management consultancy for operators, could be offered. Nonetheless, the wholesale sector has not been able to benefit proportionally from the upward trend of recent years. In spite of all efforts, growth has been suppressed and some capacities have had to be adjusted.

2006 was marked by the implementation of the new Gaming Ordinance. The operators were forced to disinvest all their fun games without any transitional arrangement. Opportunities for compensation were lacking. Until early summer, manufacturers and wholesalers were not able to make AWPs available that were designed in accordance with the improved regulation.[10] As a result, the operators' turnover plunged. Total

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[10] H.-G. Vieweg; *Wirtschaftsentwicklung Unterhaltungsautomaten 2006 und Ausblick 2007*, München, January 2007, p. 23.

turnover fell short of the level of the preceding year by more than 7%, although operators enjoyed a gain of 17% with AWPs, but with other amusement machines they suffered a setback of 60%, above all caused by the ongoing disinvestment of fun games.

Only in 2007 did the positive effects of the new Gaming Ordinance become noticeable. The operators’ turnover from AWPs soared by 15%. It more than compensated the ongoing shrinkage of turnover from amusement machines without prizes. In total, the operators’ turnover increased by 13.5%.

It took another year until the operators were able to regain previous levels reached during the middle of the decade. In 2008, turnover grew considerably, by 9.0%. Apart from AWPs, which increased by 10.5%, the Internet terminals contributed above all to growth. Both product groups more than compensated the ongoing dismantling of fun games and the further decline of turnover from amusement machines without prizes.

In 2009, the operators’ overall turnover grew by 8.4%, above all driven by an increase in AWPs of 9.8%. 2010 exhibited declining growth momentum. Provisional figures indicate a growth in total turnover of 6.0%, AWPs (6.5%). Prospects for 2011 are muted. Operators’ turnover is expected to grow only by around 2% and the sale of amusement machines will be subdued by the incertitude of the future framework conditions for commercial gaming.