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Economic Development of the German Coin-Operated Gaming and Amusement Machine Industry 2013 and Outlook for 2014

Study Commissioned by the German Coin-operated Machine Industry

Hans-Günther Vieweg

ifo Institute
Leibniz Institute for Economic Research at the University of Munich

Dept.: Institutional Organization and New Technologies

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The German Jukebox, Sport-games and Amusement Machine Industry

Market for jukeboxes, sport-games and amusement machines

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

- The most important product group consists of **amusement machines with prizes** (AWPs), which – for about 60 years – have been subject to comprehensive public regulation.
- A second group contains **gaming machines without prizes**. These are machines such as 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 5th Amendment of the German Gaming Ordinance took effect, these fun game machines have been prohibited. In the meantime all of them have been dismantled.
- A third group consists of **sport-games machines**, predominantly mechanical or semi-mechanical machines, such as billiards, darts, table soccer, air hockey etc. These machines lost much of their importance in amusement arcades when so-called multigamers[1] were put on the market.
- A fourth group comprises **Internet terminals**, which have been introduced to the market in significant numbers since about 2005. They allow a 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 category “**other games with prizes**” (subject to Art. 33d of the German Trade, Commerce and Industry Regulation Act [GewO]). The Federal Criminal Investigation Agency (*Bundeskriminalamt*) uses the

[1] For a definition see p. 4.

licensing process for these machines in such a restrictive manner that this product group is almost irrelevant.

The National Metrology Institute (PTB) is a public body responsible – among other public tasks – for the type approval of **AWP**s and tests their compliance with the German gaming law regulation. As a by-product the PTB records the number of AWPs approved per annum. Up to 1 January 2006, the number of new approvals was used to depict the long-term development of the market for AWPs. Additionally, the figures could be applied for an assessment of the stock of AWPs installed by the use of information on the scrapping of outdated AWPs or their return to manufacturers. Since then, these figures no longer reflect the sale of hardware but the sale and rental of software packages for AWPs. Primarily software packages are exchanged to offer clients a variety of innovative games, while boxes have a much longer service life.

For the second half of 2012 up to mid-2013 the number of approvals was below the level of the preceding period. This poor development was caused by the worsening of the framework conditions for commercial gaming and the subsequent cancellation of the annually held leading trade fair of the amusement machine industry. The International Trade Fair for Amusement and Vending Machines (IMA) did not take place in 2013. During the third quarter 2013 the number of approvals soared, induced solely by pending political decision making.

In recent years the traditional wall-mounted, mechanical and electro-mechanical AWPs have been replaced by completely electronically controlled, video-based AWPs in Germany. The traditional AWPs have been dismantled in amusement arcades; even in bars and restaurants most of them have been replaced by new generation AWPs. Because of technological progress and the wide scope of design options provided by the 5th Amendment of the Gaming Ordinance, the engineers of the domestic manufacturers can access the globally available stock of software-based games offering a broad spectrum of entertainment. They adapt the games to the strict legal provisions in Germany.

Software packages that contain numerous different games are installed on these electronically controlled AWPs. Updates can be carried out as soon as manufacturers offer new software packages which are approved for installation on AWPs run by operators. The latest trends in gaming can easily be embraced. Feature Games offer a variety of game-boards and narratives. With increasing risk levels the skill requirements expand and – within the legal provisions – higher prospects of profits are offered.[2]

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 and attractive supply of games than before the 5th Amendment of the Gaming Ordinance was put into effect on 1 January 2006. These new AWPs are attracting a broad public. A growing number of women, for example, now enjoy gaming. The share of women amongst all AWP users – a former domain of male clients – rose from 8.94% in 2007 to 16.99% in 2009 and up to 21.23% in 2010. In recent years the share has stabilized at around 21%; in larger amusement arcades the average share stands at 26%.[3]

The ambience of an amusement arcade is of importance for female clients. They are attracted to the modern and neat premises that have been increasingly erected in recent years. These amusement arcades have become integral parts of large leisure-time establishments together with cinemas, cafes etc. These predominantly large amusement arcades employ well-trained staff and offer cost-free services. Nearly 100% comply with provisions that must be met with regard to the risks from excessive and pathologic gaming, such as laying out informative material. A representative investigation of amusement arcades revealed that there were no complaints of non-compliance for

[2] The Technical Directive (Technische Richtlinie [TR]) 4.1 of the PTB stipulates that prospects of wins amounting to more than €1,000 must not be presented on AWPs. According to available information, the exchange of non-compliant AWPs / software packages has been completed to the largest extent since 1 January 2011. The BMWi has incorporated the limitation of the maximum prospects for wins of €1,000 in its SpielV [E]. However, the resolution of the Council of Constituent States of 5 July 2013 contains a proviso with a much stricter limitation for the prospect of wins stipulating that €300 not be exceeded in the 5th Amendment of the Gaming Ordinance.

[3] J. Trümper, *Feldstudie 2011 – Schwerpunkt Spiel- und Einsatzverhalten von Spielern an Geldspielgeräten,* Unna, December 2011, p. 20.

establishments with more than four licences. Precisely these amusement arcades are in the focus of the federal states with their new text of the Inter-state Treaty on Gambling which took effect on 1 July 2012 (GlüStV (new text)) that bans amusement arcades approved by multi-concessions. All in all the amusement arcade business is a law-abiding industry.

For quite some time sports betting shops have been mushrooming. Their ambience and the structure of their guests contrast strongly to amusement arcades. These establishments are predominantly small, cheaply furnished shops. They are visited by a vast majority of male guests from ethnic minorities.[4] Beyond betting products, these shops run gaming machines, most of them AWPs. As long as not more than three AWPs are run and the sports betting shops are official hospitality businesses with Suitability Certificates (Geeignetheitsbescheinigungen) in accordance with § 33c (3) GewO for the installation of AWPs, what they offer is legal. An empirical investigation revealed that the share of illegal fun games in accordance with § 6a SpielV was remarkably high. These prohibited fun games – frequently used for illegal gambling – were found in 16.6% of all sports betting shops. This percentage is 10 times higher than for amusement arcades in the study carried out at the same time.[5]

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. Since 2007, the number of Internet terminals delivered to amusement arcades, bars and restaurants has also been included. The machines recorded are not only those supplied by member businesses but also those of other manufacturers, distributors and importers. It comprises domestic production as well as imports of installed jukeboxes, pinball machines, sport-games and amusement machines with and without prizes.

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4 Jürgen Trümper; Feldstudie 2012/13 Schwerpunkte: Gäste und Spielerstruktur Gäste und Spielerstruktur – Spiel- und Einsatzverhalten von GSG-Spielern in „Kleinspielhallen“ – Endbericht – Exkurs „Terrestrische Sportwettannahmestellen“; Unna, June 2013.

5 Jürgen Trümper; Feldstudie 2012/13 a.a.O. p. 105.

For many years, as a result of unfavourable and burdensome framework conditions for commercial gaming, there has been a reduction in the number of the installed music, sport-games and amusement machines with and without prizes. The industry competes with a wide variety of gambling forms offered by public or private companies with public concessions. Moreover, since the beginning of the last decade, online gambling has made much progress and gained noteworthy market shares, although it has always been banned in Germany. Commercial gaming has steadily lost market shares over a long period of time. The operators of amusement machines were not able to meet this challenge due to the strict regulation that did not allow for the installation of attractive AWPs. The emerging difficulties for the amusement machine industry prompted the Federal Ministry of Economics (BMWi), in autumn 2000, to start a structural reform of the Gaming Ordinance, which took effect on 1 January 2006.[6] With the help of improved framework conditions, the industry has been enabled to regain lost ground.

In 2005 the declining number of installed AWPs bottomed out at around 183,000, well below the level of 245,000 AWPs in 1995. This was a reduction of one quarter or 62,000 AWPs. Since the 5th Amendment of the Gaming Ordinance took effect, their number increased strongly up to 2010. The years after, growth rates decelerated. A total of 265,000 AWPs was installed as of 31 December 2012. Initial information indicates a slight decline of the number of AWPs to 263,000 as of 31 December 2013 (Table 1).

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

Table 1: Installed amusement machines and sport-games machines

Type of machine	Number of machines a), b)			
	2010	2011	2012	2013
Amusement machines without prizes	**37,200**	**36,500**	**35,600**	**34,800**
Pinball machines	2,250	2,200	2,100	2,100
Internet terminals etc.	22,000	21,500	21,000	20,500
Score games etc.[c)]	2,650	2,600	2,500	2,400
Video games	10,300	10,200	10,000	9,800
with prizes	**250,000**	**262,000**	**265,000**	**263,000**
Sport-games machines [d)]	**22,300**	**20,000**	**18,500**	**18,000**
Total	**309,500**	**318,500**	**319,100**	**315,800**

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.; IFH Institut für Handelsforschung GmbH; calculations of the Ifo Institute.

For an unbiased assessment of the comparison, it must be taken into account that from the 1990s up to 2006 a large number of fun games[7] were installed (ca. 82,000 fun games as of 31 December 1995). As of 1 January 2006 these fun games were banned and had to be completely dismantled at short notice. The operators complied with this obligation and focused their investment activities on AWPs as compensation of turnover losses from the dismantled fun games (Figure 1).

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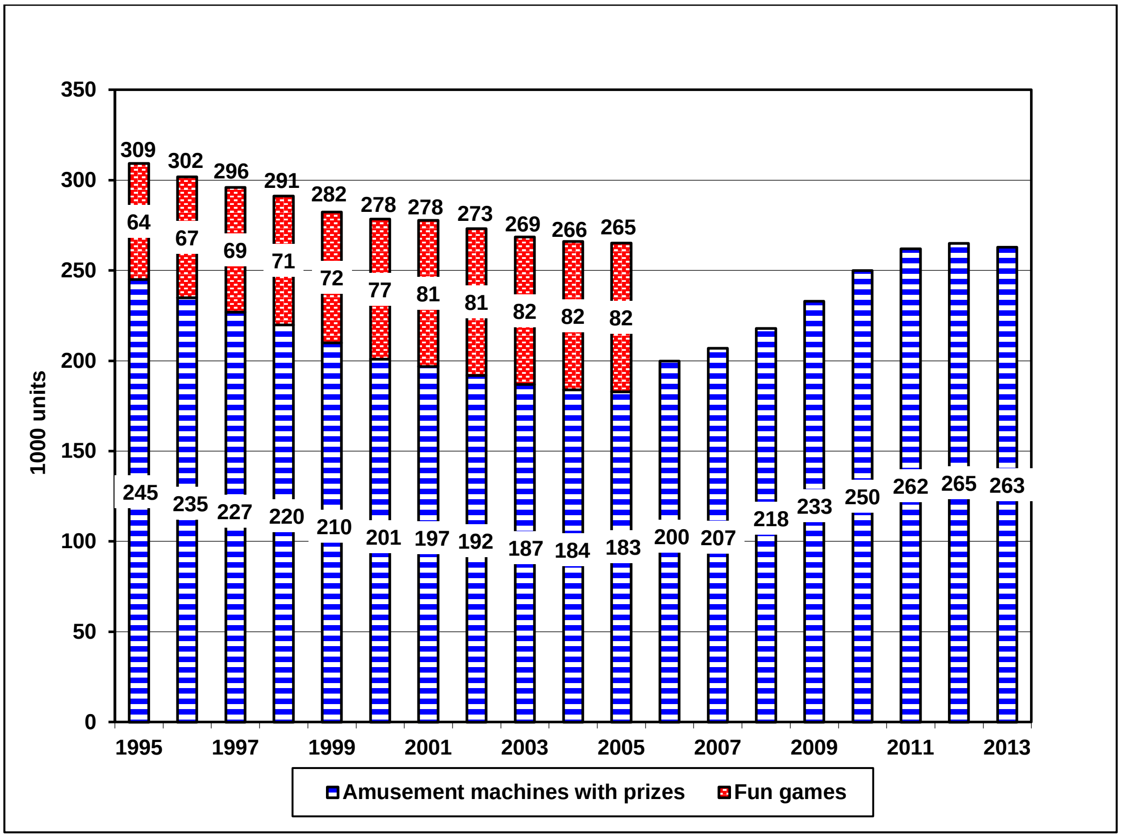
7 Fun games issuing tokens are slot machines in disguise. Frequently tokens were exchanged illegally for cash.

Figure 1: Installed AWPs and Fun Games 1995 to 2013



Source: Ifo Institute for Economic Research.

With the 5th Amendment of the Gaming Ordinance, the key economic data of the amusement machine industry have changed. In recent years, the growing attractiveness of the technically advanced AWPs has led to an increased utilization of capacities, which has reached an average level of 35%; in well-managed amusement arcades even higher levels of capacity utilization have been achieved.[8] In parallel, gaming has become much cheaper. Under the conditions of the old Gaming Ordinance before 2006 the expenses for playing a single AWP were around €22.50 per one hour. An investigation carried out annually has revealed a decreasing trend for the average expenses per hour gaming on one AWP:

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8 See: Jürgen Trümper, Umsetzung der novellierten Spielverordnung – Feldstudie 2010, Berlin, August 2010, p. 79, 90. There was a strong increase of the capacity utilization from 2009 to 2010. However, this increase reported in the empirical study overstated the actual development because the investigation in 2010 was carried out in winter, a more favourable season for amusement arcades' businesses.

- player's expenses €16.59 (period 20 May to 7 July 2007),
- player's expenses €13.95 (period 1 March to 24 May 2008),
- player's expenses €11.39 (period 7 February to 19 June 2009),
- player's expenses €10.89 (period 7 December 2009 to 22 April 2010).[9]

In the machine halls of the state-run casinos the players' expenses for one hour gambling at one slot-machine range on average between €80 and €120.

On the basis of key figures from studies carried out by Trümper and Heineken, the average actual players' expenses can be calculated. In several empirical studies Trümper has shown that before the 5th Amendment of the Gaming Ordinance was put into effect on average a player operated 2.57 AWPs in parallel (2004); in recent years on average only 1.4 AWPs (2010) are operated simultaneously.[10] As a result the average hourly expenses of a guest in an amusement arcade operating AWPs have been significantly reduced from:

- €57.83 (€22.50 x 2,57) in 2004 to
- €15.25 (€10.89 x 1,40) in 2010.

In recent years the stock of AWPs has developed differently in the various market segments. In amusement arcades, the capacities in commercial gaming have been expanded. However, the demand has not kept pace with supply, and utilization of capacities has declined. A field study of June 2010 determined there were 4.07 guests, among them 3.26 players, on average, per concession for amusement arcades. A follow-

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9 See: Wolfram Heineken, Fraunhofer-Institut für Fabrikbetrieb und Automatisierung, Fallstudie zur Kontrolle des gesetzlichen Rahmens der Spielverordnung bezüglich des durchschnittlichen Spieleraufwandes am Beispiel statistischer Auswertungen gemessener Geldbewegungen von Geldspielgeräten für das Jahr 2010, Magdeburg, 19 October 2010, pp. 10. Taking into account the average capacity utilization of AWPs of around 35% during opening hours of amusement arcades AWPs the gross income is on average around €3.50 per hour, irrespective of whether a guest is gaming or not.

10 See: Jürgen Trümper, Umsetzung der novellierten Spielverordnung – Feldstudie 2010, Berlin, August 2010, p. 93.

up study of November 2011 counted only 3.56 guests and 3.04 players.[11] It is not advisable – based on two points of time – to conclude that the supply of AWPs is saturated, but it is an indication that the market for commercial gaming is about to approach an equilibrium of supply and demand.

In gastronomy in the narrower sense – the traditional locations for AWPs in restaurants, pubs, bars etc. – the numbers have shrunk, although since 1 January 2006, three instead of two machines are permissible in each establishment. Newly designed AWPs for use in gastronomy derived from video-based AWPs dedicated for amusement arcades have been brought onto the market. Since a couple of years these multigamers have been replacing the traditional electro-mechanical AWPs.

A positive development has emerged 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 have been carried out. This upward development has contributed to countering the downward trend in gastronomy in the narrower sense.

In the market segment of amusement arcades, a tendency towards larger premises based on multiple concessions can be observed. This trend has continued and is part of a structural change of the industry. These new establishments gain importance and – because of their visibility – are easily spotted by the public, while simultaneously smaller, less visible establishments with only one or two concessions have been shut down because they can no longer be operated economically.[12] The growing number of

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[11] J. Trümper, *Feldstudie 2010 – Umsetzung der novellierten Spielverordnung*, Unna August 2011, p. 36 and J. Trümper, *Feldstudie 2011 – Schwerpunkt Spiel- und Einsatzverhalten von Spielern an Geldspielgeräten*, Unna, December 2011, p. 38.

[12] Updates of field studies for the evaluation of the 5th Amendment of the Gaming Ordinance in 2009 and 2010 revealed the structural change by the closure of smaller establishments. The review of 2,000 and 2,450 amusement arcades respectively showed that in each of the years 82 establishments – still operated the year before – were shut down because of suspension of business, renovation or relocation. See: Jürgen Trümper, *Umsetzung der novellierten Spielverordnung – Feldstudie 2009* (2010), Berlin, September 2009 (2010), p. 70.

bright and more visible establishments has caused critics of the industry to raise complaints of an amusement-arcades flood. They are calling for a roll-back of the development to prevent pathologic gaming.[13]

Many of the new amusement arcades have become an integral part of leisure-time facilities. This development has contributed to a better public acceptance of amusement arcades and has become part of a changing supply side. Despite this more positive image – confirmed in a field study on the evaluation of the Gaming Ordinance[14] – the German federal states, which launched strong measures to curb commercial gaming, plan to ban multiple concessions that are the legal basis for larger amusement arcades. The federal states are continuing their efforts to restrict commercial gaming by a ban on multi-concessions, despite a fundamental decision of the Federal Administrative Court (BVerwG) that confirmed the admissibility of multi-concessions under certain conditions.[15]

In 2013 nearly no new amusement arcades have been opened, while at the same time smaller establishments have been shut down. The reduction of capacities has caused a slight decline of the number of installed AWPs. Simultaneously, the upward trend of commercial gaming in establishments at places of public interchanges has come to an end. In particular, obligatory off-times of at least three hours in accordance with § 26 (2) (GlüStV (new text)) and much longer off-times as called for in some state gaming regulations – up to eight hours – have turned out to be disadvantageous for these locations in particular.

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[13] However, the broader public takes a more liberal stance. Gambling and thus commercial gaming is not understood as a subject of a governmental ban, necessary in any case to protect people against themselves. This is an assessment of around three quarter of the interviewees of a representative survey. See: John Stuart Mill Institut für Freiheitsforschung e.V.; Wie halten es die Deutschen mit der Freiheit? Freiheitsindex Deutschland 2013, p. 11 http://www.hochschule-heidelberg.de/de/fakultaet-fuer-wirtschaft/john-stuart-mill-institut-fuer-freiheitsforschung/ (9 January 2014).

[14] These bigger amusement arcades are well equipped. They offer the latest amusement machines in a tastefully styled ambiance and employ well-qualified staff. Women are especially attracted to these arcades. See Jürgen Trümper, *Umsetzung der novellierten Spielverordnung – Feldstudie 2009*, Berlin, September 2010, p. 41, pp. 45.

[15] BVerwG Judgement of 9 October 1984, GewArch 1985/2, pp. 62. See: H.-G. Vieweg, *Wirtschaftsentwicklung Unterhaltungsautomaten 2008 und Ausblick 2009*, München 2009, pp. 27.

For all other groups of amusement machines without prizes and sport games machines, the long-term downward trend has continued. Two factors help explain this development: In recent years operators have used their financial means primarily for investments in AWPs and to a lesser extent in other product groups. AWPs developed in compliance with of the 5th Amendment of the Gaming Ordinance offer a variety of interesting games and have attracted additional clients that previously made use of other entertainment opportunities in amusement arcades. Beyond this substitutional effect, a worsening profitability – caused above all by a growing amusement tax burden in many municipalities – have reduced the means for self-financing investment projects.

Turnover of the amusement machine industry

The amusement machine industry is divided into three sectors: machine manufacturers, wholesalers and operators. In 2013, their non-consolidated turnover amounted to €5.405 billion. This corresponds to a decline of 2.6%, a slight reduction having already taken place in 2012. Above all manufacturers and wholesalers suffered a setback, by minus 12.7% and minus 8.0%, respectively (Table 2). This shrinkage was caused by a complete breakdown of investment in new capacities by operators.

The sole reason for the slump in new orders was the fundamental worsening of the framework conditions for commercial gaming by policymakers of the German federal states. On 1 July 2012 the GlüStV (new text) came into effect, although numerous renowned legal experts had stated that this treaty is unconstitutional and violates European law. The federal states put it into force in the context of state-related gaming regulations. In many states even more restrictive provisions were introduced. For instance, in Berlin and Hamburg the maximum number of AWPs that are permissible per concession was reduced from 12 to 8. This provision was put into effect although this exceeds the competence that the states were assigned during the Reform of the Federal System I (Föderalismusreform I). At the same time, in some federal states the closing hours have been expanded beyond the three hours foreseen in § 26 (2) GlüStV (new text), in Berlin up to eight hours. Moreover, amusement taxes have been increased to levels which not only will lead to an economic strangulation of marginal companies but even of firms with average industry profitability.

Table 2: Turnover of the amusement machine industry

Branch	In million euros 2010	2011	2012	2013
Total (non-consolidated) [a)]	**5,305**	**5,575**	**5,550**	**5,405**
Total turnover with machinery [a),b)]	**1,090**	**1,120**	**1,050**	**940**
Manufacturers (own production & imports) [a), b)]	570	595	550	480
Wholesale distributors [a), b)]	520	525	500	460
Operators [c)]	**4,215**	**4,455**	**4,500**	**4,465**
Amusement machines with prizes	4,100	4,350	4,400	4,370
Amusement machines without prizes and sport-games machines	65	60	58	55
Internet terminals	50	45	42	40

a) Manufacturing companies and wholesale (Sales, renting and leasing of amusement machines and software-packages).
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.

Today's breakdown in investment has been caused above all by § 29 (4) sentence 2 GlüStV (new text), which eliminates all prospects for operators to run amusement arcades economically. In accordance with the so-called "Guillotine Provision" all restrictions of the GlüStV (new text) for all enterprises will come into effect on 1 July 2017. They will – if the legality of the state-related gaming regulations is not successfully contested – lead to shrinkage of the operators' businesses by at least 55%.

The upward trend of operators' turnover – induced by the 5th Amendment of the Gaming Ordinance – is history. As of 2007 growth rates accelerated and the rapid expansion remained high until 2011. This was the last year with a strong growth rate of 5.7%. Already in 2012 the increase of revenues was close to stagnation, at only 1%. Initial information available for 2013 indicates a decline of operators' turnover for amusement machines without prizes, sport games machines and even with AWPs. An overall decrease of 0.8% has been reported.

Investment in new capacities will not be undertaken in coming years, because the transitional period in accordance with § 29 (4) sentence 2 GlüStV (new text) has become too short. The time until 1 July 2017 is not sufficient for a regular depreciation of new investment in business asset. Initial information provided by experts of the industry indicates that already in 2013 the stock of AWPs has declined slightly. Less profitable establishments have been shut down. Moreover, the total ban on smoking has affected amusement arcades – the number of guests has declined.[16] A further, supra-regional factor imposing a burden on amusement arcades is the expansion of the off-times – against the general trend of liberalization of leisure time businesses and the availability of the Internet around the clock – that has massively reduced the useable capacities.

It is to be feared that in 2014 – in spite of an improved macroeconomic business environment and better consumption climate – the operators' turnover will decline further. The unchanged poor framework conditions for commercial gaming are a drag on their business.

Since 2006 the amusement machine industry has faced a growing burden from a permanent increase of amusement taxes. Several reasons are behind this development. A supreme court decision has called for a replacement of the tax base for AWPs. Traditionally, amusement taxes have been levied per each AWP (Stückzahlmaßstab). This had to be changed to a tax base reflecting the business volume (Wirklichkeitsmaßstab). The gross or the net revenues of operators are taken as a basis,

[16] In North Rhine-Westphalia the smoking ban took effect on 1 May 2013 and induced a reduction of visitors by a 2-digit rate.

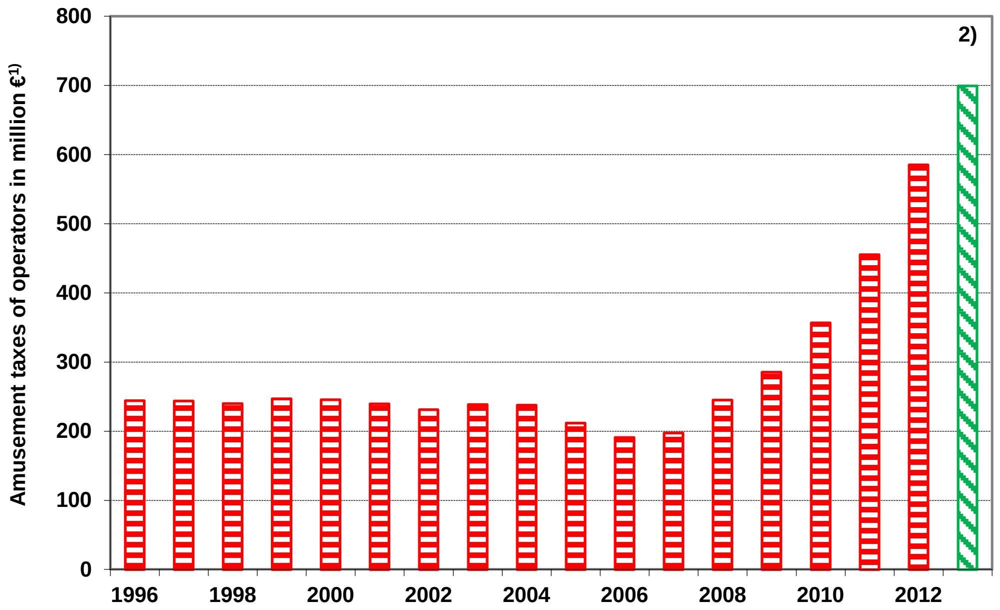
but in some cases even the stakes of the players are used. For a couple of years, municipalities have begun to increase amusement tax rates, in many cases drastic rate increases have put pressure on the profitability of amusement arcades.

Revenues of municipalities from amusement taxes on AWPs, gaming machines without prizes and sport-games machines strongly grew between 2006 and 2011, multiplied by a factor of around 2.4. During the same years, the operators' turnover increased by only 50%, a development that critics labelled as an amusement arcade glut. The burden of operators' enterprises turnover by amusement taxes has risen disproportionally.

Over the past two years the situation has become even worse. The operators' turnover stagnated [+1.0% (2012), –0.8% (2013)] in the wake of burdensome framework conditions, while simultaneously the municipalities' amusement tax revenues have grown further by 28.5% (2012) and an estimated 19.5% (2013). The total amount is around €700 billion in 2013, a new record high that is 3.6 times the 2006 value (Figure 2).

The surge in amusement taxes over the past two years has increased the burden for operators' business to levels that have brought even enterprises with average economic viability to the brink of profitability. Under the worsened framework conditions, the operators are challenged by stagnating or even declining turnover with simultaneously growing amusement tax payments to avoid slipping into the red.

Figure 2: Amusement tax burden of operators



1) 95 % of total amusement taxes as published by the Federal Statistical Bureau of Germany, 5 % are deducted for amusement taxes raised from other sources.

2) Calculated on the growth of amusement taxes for the first half of 2013 (+21.5 %) and by the assumption of a more moderate increase of +17.5 % for the second half, results in 19.5 % for the total year.

Source: Federal Statistical Bureau; VDAI; calculations of the Ifo Institute.