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Economic Development of the German Coin-Operated Gaming and Amusement Machine Industry 2012 and Outlook for 2013

Study Commissioned by the German Coin-operated Machine Industry

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1.1. 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 are 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. These were widespread until the end of 2005. 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. When so-called multigamers[1] were put on the market, they lost much of their importance in amusement arcades.
- 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**

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[1] For a definition see p. 3

prizes" (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 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. Since then, these figures no longer reflect the sale of AWPs but the sale and exchange of software packages. The further application of this indicator for this purpose would lead to an overestimation of the AWPs put on the market.[3]

For the first half of 2012 the number of the PTB approvals for AWPs exceeded the same period of the preceding year by nearly 28%. This enormous increase was caused to a large extent by an exchange of software packages due to technical requirements. Additionally novelties presented at the International Coin-operated Machine Exhibition (IMA) in January 2012 were ordered by operators. In contrast to preceding years investments in new amusement arcades only played a minor role. Due to the dramatically worsened framework conditions for the German amusement machine industry, only running projects were finalised.

The numerous measures of the Federal Republic, federal states and municipalities to restrict and – without recognising the actual demand – to downsize commercial gaming have come into effect. This "multi-level set of problems" raised by policymakers from

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[3] 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.

all levels of the Federal System (*Mehrebenenproblematik*) has driven investors away from the industry.[4] Business with new projects has come to a standstill, which has already had an impact on the PTB approval figures for the second half of 2012: they slumped by around 30% as compared with the preceding year.

In recent years the traditional wall-mounted, mechanical and electro-mechanical AWPs in Germany have been replaced by completely electronically controlled, video-based AWPs. In amusement arcades all traditional AWPs have been dismantled. Even in bars and restaurants most of them have been replaced by new generation AWPs that no longer contain mechanical or electro-mechanical components. These new AWPs offer a broad range of games. The game packages have only partly been developed by German manufacturers. 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. Many games have been procured and adjusted to the legal requirements in Germany by software engineering.

AWPs are no longer simple 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. 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 and attractive supply of games than before 1 January 2006. Although with the ban of fun games the number of machines in amusement arcades has been reduced, these so-called

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4 The public initiatives and their impact on the amusement machine industry are discussed in detail in the German version of the study. See: H.-G. Vieweg; *Wirtschaftsentwicklung Unterhaltungsautomaten 2012 und Ausblick 2013*, Munich, March 2013, pp. 22.

multigamers allow operators to offer a broader supply of games than before the 5th° Amendment of the Gaming Ordinance.

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 – has risen 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%.[5]

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 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. Likewise smaller amusement arcades with three and less concessions show a high compliance rate. All in all the amusement arcade business is a law-abiding industry.

5 J. Trümper, *Feldstudie 2011 – Schwerpunkt Spiel- und Einsatzverhalten von Spielern an Geldspielgeräten*, Unna Dezember 2011, p. 20.

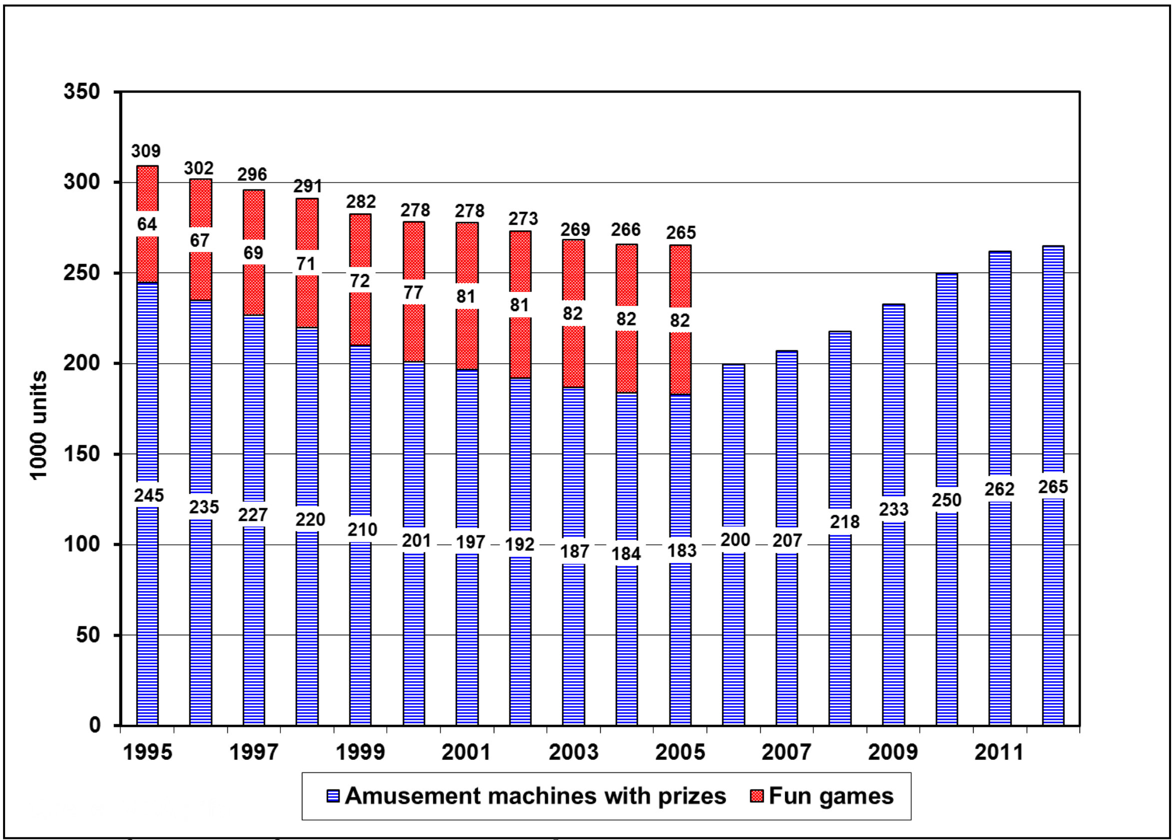
1.2. Number of installed machines in Germany

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, 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. 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 downward trend was the result of unfavourable and burdensome framework conditions for commercial gaming. 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 steadily lost market shares over a long period of time. The manufacturers of AWPs were not able to meet this challenge due to the strict regulation that left no room for the development of attractive products. 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.

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

Figure 1: Installed AWPs and Fun Games 1995 to 2012



Source: Ifo Institute for Economic Research.

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 to 265,000 as of 31 December 2012, well above the 2005 level. However, this is just the number of AWPs plus so-called fun games[8] in 2005. For an assessment of the comparison of 2005 and 2012, it must be taken into account that up to 2005, and as of 1995, a growing number of fun games had been installed. Since the 5th° Amendment of the Gaming Ordinance, fun games were banned and had to be

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

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)

- The growing installation and use of fun games was caused by their attractiveness as compared to the inferior games on the AWPs that clients perceived to be boring. Since the 5th Amendment of the Gaming Ordinance took force on 1 January 2006, fun games have been banned.
- During the period of commercial gaming's lacking competitiveness vis-à-vis public and publicly licensed gambling as well as vis-à-vis the illegal terrestrial and online gambling, fun games contributed to the fact that operators' turnover declined only slightly, as measured in constant prices. However, fun games were frequently abused for illegal gambling by the exchange of issued tokens for cash.
- After the 5th Amendment of the Gaming Ordinance took effect, fun games were quickly dismantled and gradually replaced by technological advanced and more client-appealing AWPs.
- In subsequent years the number of installed AWPs grew, which, however only fully compensated for the dismantled fun games by 2012. The combined number of AWPs and fun games in 2005 was equal to the number of AWPs in 2012.
- Since the 5th Amendment of the Gaming Ordinance, playing with AWPs has become cheaper. Moreover, playing several AWPs simultaneously has been reduced markedly. While under the conditions of the old Gaming Ordinance the possible expenses for playing a single AWP were €22.50 per hour and on average a player operated 2.57 AWPs (2004); today the average expenses for playing a single AWP for one hour are €10.89, and 1.4 AWPs (2010) are operated on average simultaneously. Total expenses per guest for one hour playing time have been reduced on average from €58 down to €15.25. (See: H.-G. Vieweg, Wirtschaftsentwicklung Unterhaltungsautomaten 2011 und Ausblick 2012, Munich, January 2012, pp. 21.)

Table 1: Installed amusement machines and sport-games machines

Type of machine	Number of machines [a), b)]			
	2009	2010	2011	2012
Amusement machines without prizes	**39,150**	**37,200**	**36,500**	**35,600**
Pinball machines	2,300	2,250	2,200	2,100
Internet terminals etc.	22,500	22,000	21,500	21,000
Score games etc.[c)]	3,850	2,650	2,600	2,500
Video games	10,500	10,300	10,200	10,000
with prizes	**233,000**	**250,000**	**262,000**	**265,000**
Sport-games machines [d)]	**23,000**	**22,300**	**20,000**	**18,500**
Total	**295,150**	**309,500**	**318,500**	**319,100**

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.

The federal states played a key role in the 5th Amendment of the Gaming Ordinance, driven by the political commitment to improve the framework conditions for commercial gaming. However, shortly thereafter they launched initiatives aimed at worsening the framework conditions again. First effects of these strong initiatives were evident already in 2011. For investments in new amusement arcades that were realised and for which a permanent commercial permit as per §°33i GewO (Trade Regulation) had been granted by 28 October 2011, a new provision had taken effect that guarantees only a protection of this permit for five years in accordance with § 29 (4) sentence 2 GlüStV (new text). The protection for all amusement arcades with commercial permits after this deadline as per § 29 (4) sentence 3 GlüStV (new text) is only one year. De facto this is a prohibition to invest in amusement arcades, because operating economically within this short period is not possible. According to initial estimations the number of installed AWPs in 2012 only increased by 1%. This meagre growth is attributed to some investment projects not having been concluded in 2011 and to deliveries in the gastronomy sector.

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 – by around 22,000 AWPs between 2010 and 2012. 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 up study of November 2011 counted only 3.56 guests and 3.04 players.[9]

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 are underway. This upward development has contributed to bottoming out the downward trend in gastronomy in the wider 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

[9] J. Trümper, *Feldstudie 2010 – Umsetzung der novellierten Spielverordnung*, Unna August 201, p. 36 and J. Trümper, *Feldstudie 2011 – Schwerpunkt Spiel- und Einsatzverhalten von Spielern an Geldspielgeräten*, Unna December 2011, p. 38.

structural change of the industry. While new, more attractive establishments gain importance and – because of their visibility – are easily spotted by the public, smaller, less visible establishments with only one or two concessions have been shut down because they can no longer be operated economically.[10]

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[11] – the German federal states, which launched strong measures to curb commercial gaming, plan to ban multiple licences 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.[12]

1.3. Turnover of the amusement machine industry

The amusement machine industry is divided into three sectors: machine manufacturers, wholesalers and operators. In 2012, their non-consolidated turnover amounted to €5.55 billion, which was a decline of 0.4% over 2011. In particular, manufacturers and

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[10] 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 - yet 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.

[11] 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 2009, pp. 20, 41.

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

wholesalers suffered setbacks by –6.3% and –7.6% respectively (Table 2). Whereas during the first half of 2012 final investment projects were concluded, for the second half-year follow-up orders were missing. The sole reason for the slump in new orders was the fundamental worsening of the framework conditions for commercial gaming. On 1 July 2012 the new text of the Interstate Treaty on Gambling (GlüStV (new text)) came into effect, although numerous renowned legal experts had stated that this treaty is unconstitutional and violates European law. It has been put into force by federal states' laws on implementation and states' gaming laws. In many states even more restrictive provisions were introduced, by the additional adoption of their own amusement-arcade laws (SpielhG). For instance, in Berlin and Hamburg the maximum number of AWPs that can be installed per concession was reduced from 12 to 8. This provision was put into effect although this exceeds the competence the states received 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 by as much as 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.

On 1 January 2006 the 5th Amendment of the Gaming Ordinance took effect. Although this improved the framework conditions, the industry was burdened by the ban of fun games that had to be dismantled without any transitional period. The operators were compelled to divest around 80,000 fun games without any opportunity for compensation, because there were no AWPs designed and approved in line with the new legal framework until mid-2006.[13] In 2006 the operators' total turnover dropped by 7%, although turnover with AWPs expanded by 17%. But this increase was not sufficient to

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[13] See: H.-G. Vieweg; Wirtschaftsentwicklung Unterhaltungsautomaten 2006 und Ausblick 2007, Munich, January 2007, pp. 23.

compensate for losses caused by divested fun games. Operator's turnover with other entertainment services slumped by 60%.

Table 2: Turnover of the amusement machine industry

Branch	In million euros 2009	2010	2011	2012
Total (non-consolidated) [a]	**4,965**	**5,305**	**5,575**	**5,550**
Total turnover with machinery [a,b]	**1,040**	**1,090**	**1,120**	**1,050**
Manufacturers (own production & imports) [a, b]	530	570	595	550
Wholesale distributors [a, b]	510	520	525	500
Operators [c]	**3,925**	**4,215**	**4,455**	**4,500**
Amusement machines with prizes	3,800	4,100	4,350	4,400
Amusement machines without prizes and sport-games machines	70	65	60	58
Internet terminals	55	50	45	42

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.

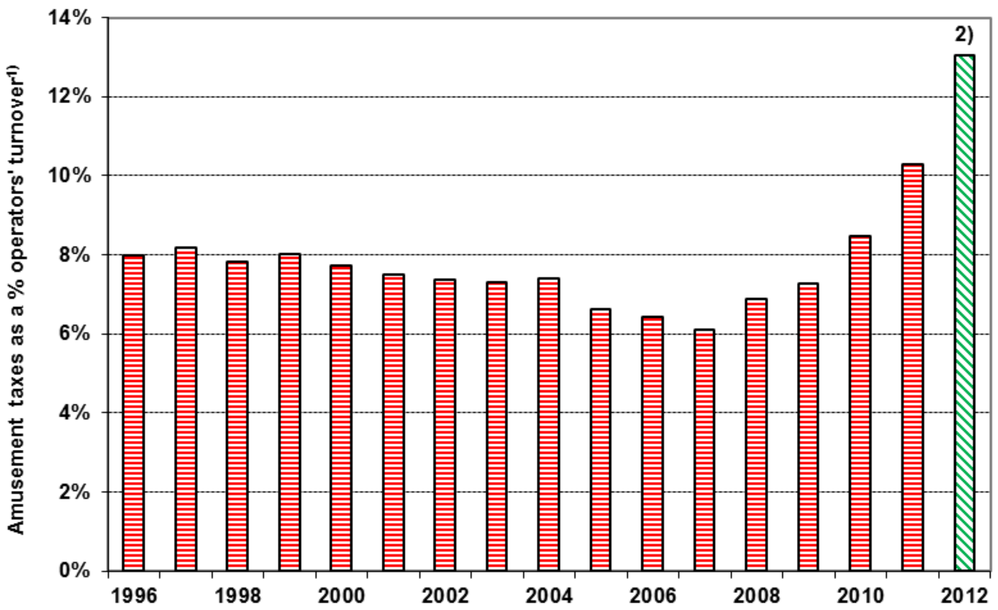
Only in 2007 did the improved framework conditions show their positive effects. Operators' turnover with AWPs increased by 15%, which more than compensated for the on-going decline in other market segments. Not until 2008 did operators' turnover again reach the level achieved during the middle of the last decade. Turnover increased by 9%, above all driven by AWPs (+10.5%) and Internet-terminals that were put on the market in recent years. Both of these product groups more than compensated for the complete dismantling of fungames and the loss of attractiveness of other amusement machines without prizes and sport-games machines.

In subsequent years, operators' turnover continued to expand, but at declining rates, 10.1% (2009), 7.4% (2010), 5.7% (2011) and – based on initial estimations – in 2012 only by 1.0%. To this day, the structural change of the industry's entertainment supply has continued. Once all fun games had been dismantled, it was above all the AWPs designed and developed in compliance with the Gaming Ordinance of 1 January 2006 that have been the drivers. Playing clients have been attracted by their games and their diversified supply and have largely abandoned amusement machines without prizes and sport-games machines.

In 2013, in spite of an overall macro-economic satisfying environment, operators' business will stagnate at best. But since the GlüStV (new text) is in force for all of the year and further restrictions are expected, it is more likely that their turnover will decline.

For the years to come a major challenge will emerge from a tax burden that has strongly grown over the recent past in a business environment characterized by stagnating or even declining turnover. Between 2005 and 2012, operators' turnover with AWPs increased by 86%, whereas simultaneously turnover with other amusement machines and sport-games machines declined. Total turnover increased by 40%. At the same time, operator's amusement tax payments have grown by 175%. In particular in more recent years the growth of the tax burden has accelerated. For a long time the tax burden – as measured by the ratio of amusement tax payments and operators turnover – was stable at around 8%. According to the latest available figures it has risen to 13%.

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 2012 (+31.5 %) and by the assumption of a more moderate increase of +25 % for the second half, results in 28 % for the total year.

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

2. Medium-term outlook

With the taking effect of the 5th Amendment of the Gaming Ordinance, the framework conditions for commercial gaming were been improved. The policy-makers' will was to strengthen commercial gaming's competitiveness vis-à-vis public and publicly licensed gambling as well as vis-à-vis terrestrial and online gambling. Within a couple of years, policy-makers have reversed this objective. In particular the German federal states have taken initiatives to curb commercial gaming. Even worse, the provisions will be more restrictive than before 2005 when the amusement machine industry permanently lost market shares to their competitors.

A detailed analysis of the measures taken simultaneously by policy-makers from all levels of the German federal system – federal lawmakers, federal states and municipalities dedicated to repel commercial gaming – is available in the more comprehensive German version of this study.[14] This multi-level set of problems (*Mehrebenenproblematik*) is an attempt to marginalize the industry.

- The federal states have created a legal framework dedicated to drastically reducing the size of the industry. The body of law consists of the GlüStV (new text) – the federal states' implementation laws and gaming laws. Above all, the number of amusement arcades is affected by the minimum distance provision between establishments as per § 25 (1) GlüStV (new text) and the size of establishment by the ban of multi-concessions as per § 25 (2) GlüStV (new text). These supra-regional provisions have come into effect even though the rights of the subjects were not been transferred to the federal states in the Reform of the Federal System I (Föderalismusreform I).

[14] See: H.-G. Vieweg; *Wirtschaftsentwicklung Unterhaltungsautomaten 2012 und Ausblick 2013*, Munich, March 2013, pp. 22.

- In the past, the federal states reduced the closing hours for the gastronomy sector to one hour for cleaning. With few exceptions and limitations, these provisions were also valid for amusement arcades. However, the new Inter-State Treaty on Gambling calls for a minimum of three closing hours as per § 26 (2) GlüStV (new text). Some federal states have extended closing hours in their state-specific gaming laws. As a consequence, amusement arcades have to close, while other entertainment establishments close by, such as bars, pubs, discos etc., continue to operate.
- At the same time, –municipalities, within their powers, have additionally extended closing hours for amusement arcades and increased amusement taxes, almost to the point of strangulation.
- The Federal Ministry of Economics and Technology (BMWi) is preparing the 6th Amendment of the Gaming Ordinance, which, in parallel with the measures taken by the federal states is dedicated to reducing the supply of commercial gaming and its attractiveness. It calls for a drastic reduction of the number of AWPs installed outside amusement arcades, in establishments of the gastronomy. After a transitional period of five years only one instead of three AWPs will be allowed to be installed per establishment as per § 3 (1) sentence 2 SpielV (draft).
- Additional provisions aimed at a reduction of the attractiveness of commercial gaming with the revision of the Gaming Ordinance are envisaged.

In the following, the effects of the most important measures taken by the federal states and the central government are assessed. The Inter-State Treaty on Gambling that took effect on 1 July 2012 calls for a transition period of five years as per § 29 (4) sentence 2 GlüStV (new text). According to this much too a short time frame, the restrictive provisions will come into effect on 1 July 2017. Because of the dramatic repercussions on all operators of AWPs, this paragraph of the law has been dubbed the “guillotine paragraph”. It is expected that the 6th Amendment of the Gaming Ordinance will be put into effect on 1 September 2013. This means that the reduction of the number of AWPs in the gastronomy sector must take place on 1 September 2018, only one year later.

After these deadlines, all levels of the amusement machine industry – manufacturers, wholesale and operators – will be substantially reduced. The ban of multi-concessions as well as the reduction of the maximum number of AWPs permitted per amusement arcade can be calculated without the need for further assumptions. A representative study by Trümper has disclosed that the average number of concessions per amusement arcade is 1.61; on average per concession 10.32 AWPs are installed. It is assumed that the number of AWPs will be increased up to 12 per establishment when the strict provisions come into force, with the exception of Berlin and Hamburg where only 8 AWPs permitted. The average number of AWPs per concession in Germany will increase to 11. This calculation will lead to a reduction of the number of AWPs in amusement arcades by one third as compared to the status of 31 December 2011, but this calculation does not take into account other envisaged measures. [15]

Another limitation for amusement arcades is given by the minimum distance provisions to other establishments, be it other amusement arcades or certain public institutions. This assessment requires us to make some critical assumptions. These provisions affect above all amusement arcades in urban areas, city centres or nightlife areas where several arcades might be in close proximity. The provisions call for the shutdown of all but one amusement arcade. A reduction in the number of amusement arcades by one third is assumed, an assumption this author views as optimistic. Together with the ban on multi-concessions, this will result in a reduction of AWPs installed in arcades by 55% of the current numbers.

Experts of the industry assess the share of locations in the gastronomy sector that have 3 AWPs at 10% of all locations. Without any critical assumption, the reduction of stock

[15] With regard to all measures envisaged by the federal states and the Federal Ministry of Economics and Technology that lead to a noteworthy loss of AWPs' attractiveness, the shrinkage of the amusement arcade market segment could exceed 50%.

can be calculated at around 50% if – as envisaged by the 6th Amendment of the Gaming Ordinance – only one AWP per establishment is permitted.

This short time-span for the abolition of AWPs raises the question of how players will react if roughly half of the supply disappears. That they will abandon gaming in large numbers is doubtful. They will look for alternatives and find them primarily in illegal gambling.

In particular the uncontrollable, non-regulated and in Germany forbidden online gambling and the illegal options in gastronomy, in establishments that are not subject to concessions, will benefit from this pushback of commercial gaming. Both of these illegal gambling markets have grown more strongly than the legal market in recent years. Public and publicly-licensed casinos might also tap into this market gap and open up further slot-machines parlours in urban areas.[16] Referring to § 1 (2) GlüStV (new text), a paragraph that justifies the public monopoly by the objective of directing the gambling instinct into co-ordinated channels through a limited, publicly controlled gambling supply and of preventing the spread of illegal gambling on black markets, can be used for an expansion of the monopolised gambling businesses.

[16] North-Rhine Westphalia has decided to open another casino in Cologne. See: Kölner Stadtanzeiger 30°January 2013.

Table 3: Assessment of the key-effects of the new text of the Inter-State Treaty of Gambling, the federal states' implementation laws and the states' gaming laws as well as the 6th Amendment of the Gaming Ordinance for the number of installed AWPs in Germany

Operators	2011			Consequences		
	Structure numbers	AWPs 1000	AWPs Shares	Structure numbers[2)]	AWPs 1000	AWPs Shares
Gastronomy						
Establishments with						
2 AWPs		57.6	22.0%		28.8	23.9%
3 AWPs		24.7	9.4%		12.3	10.2%
Total		82.3	31.4%		41.1	34.2%
Amusement arcades						
Locations	10815			7203		
Concessions per location[1)]	1.61			1		
AWPs per concession[1)]	10.32			11		
Total		179.7	68.6%		79.2	65.8%
Total		**262.0**	100.0%		**120.3**	100.0%

1) J. Trümper, Ch. Heimann, Angebotsstruktur der Spielhallen und Geldspielgeräte in Deutschland – Stand 1.1.2012 Unna October 2012, p. 44.
2) It is assumed that all further existing amusement arcades will run the maximum number of permitted 12 AWPs, whereas in Berlin and Hamburg only 8 AWPs are allowed. This will result on average for Germany in 11 AWPS per amusement arcade and concession.

Source: Ifo Institute.