# *The Cum-ex Case: A Look at Germany*

# *Případ Cum-ex: pohled na Německo*

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**Abstract**

This paper focuses on a particular form of stock-market trades around ex-dividend days, so-called "cum-ex" transactions, which have resulted in major revenue losses due to illegitimate tax refunds in Germany and other European nations. Until 2012, the loophole in the German withholding tax scheme made it possible for cum-ex traders to receive withholding-tax certificates without prior withholding-tax payment. Because a certain category of investors might use the tax certificates to gain a tax exemption, this opened up the prospect of a particular form of tax arbitration. It was not until 2018 that a cross-border investigation team called the Cum-Ex Files revealed the scandal to its full extend.

This paper will mainly focus on the cum-ex scandal in Germany since the literature on the topic is very limited.

**Keywords**

tax fraud, dividend taxes, cum-ex trading, tax evasion, withholding tax

**JEL Codes**

H26, G12

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**Abstrakt**

Tento článek se zaměřuje na zvláštní formu obchodů na akciových trzích ve dnech ex-dividend, takzvané „cum-ex" transakce, které vedly k velkým ztrátám příjmů v důsledku neoprávněného vracení daní v Německu a dalších evropských zemích. Až do roku 2012 umožňovala mezera v německém systému srážkové daně obchodníkům cum-ex získat potvrzení o srážkové dani bez předchozího zaplacení srážkové daně. Vzhledem k tomu, že určitá kategorie investorů mohla tyto certifikáty využít k získání osvobození od daně, otevřela se tím možnost zvláštní formy daňové arbitráže. Teprve v roce 2018 přeshraniční vyšetřovací tým nazvaný Cum-Ex Files odhalil skandál v plné šíři.

Tento článek se zaměří především na skandál Cum-Ex v Německu, protože literatura k tomuto tématu je velmi omezená.

**Klíčová slova**

daňové podvody, daně z dividend, obchodování typu cum-ex, daňové úniky, srážková daň

## Introduction

A wide body of public economic literature has researched tax evasion and has recognized that restrictions such as withholding taxes and reporting by third parties will significantly mitigate tax evasion (e.g., Kleven et al., 2011; Slemrod and Gillitzer, 2014). Yet, as noted by Slemrod (2008), non-compliance under withholding taxes is seldom debated amid the 'paramount value of withholding'. A theoretical study that investigates determinants of tax avoidance under payroll taxes is given by Yaniv (1988). Yaniv (1992) reveals that tax avoidance will simply rise rather than decrease under tax withholding, allowing for collusion between employer and employee. Both parts might make some secret arrangement on how to avoid the tax and divide the tax evasion among themselves.

Madzharova (2013) claims that the tax on business benefit decreases the employer's ability to partake in such collusion. Kleven et al. (2016) offer an agency model where there is less possibility of collusion between boss and employee as the scale of the company increases. As a result, companies have a role as 'fiscal intermediaries' in promoting the recovery of revenue.

A feature of withholding taxes is that the remitter is not the statutory tax holder. This results in a decreased motive to escape taxation as it is not the remitter who does personally profit from avoidance. Notwithstanding, the use of withholding taxes transfers the burden of non-compliance to the sender (Slemrod, 2008) it may happen that taxes are neither deferred nor remitted to the tax authorities. Another issue exists when withholding taxes is normally combined with a refundable tax credit. Since no taxes have been deferred, the tax refund results in negative taxes. In addition, illegal tax refunds often exert major negative externalities such as distortions of competitiveness, inequity and transfers of money to organized crime. (de la Feria, 2018)

One situation, when withholding tax is connected with tax evasion is called cum-ex. In the case of cum-ex dealing, the seller fundamentally does not necessarily own the stocks. Instead, the seller sells the stocks briefly. If the seller has agreed to borrow the stocks or has entered into an arrangement with a third party confirming that the stocks are eligible for settlement when they are due, this type of short selling is permitted. However, because the short selling is not accepted as such by the depository bank of the purchaser (or the original owner), a tax certificate is also issued, resulting in double tax refunds. The buyer sells the stocks back to the initial owner in a final move. Then, the proceeds from the extra tax returns are split by the parties. (Wagner and Wei, 2020)

This discrepancy has created a lack of clarity in the withholding tax process that has rendered it susceptible to tax fraud. In order to offer withholding tax certificates without previous withholding tax payment, a new cum-ex trading method has been developed (to be explained in chapter 2). However, since they gave the owner the right to a tax refund, those tax certificates were in fact cash-equivalent. Therefore, for cum-ex trades, their worth opened up fresh lucrative arbitration possibilities. Although such tax certificates were given without a prior withholding tax payment, the value of the certified withholding tax was directly due to the public's income losses. (Holzmann et al. 2017)

The nature of cum-ex trade is disheartening, not only because it joins a lengthy list of controversies and wrongdoings in the finance market, but in particular because it has been well-known and neglected by regulators and government authorities for many years, causing taxpayers' funds to be plundered. Yet, it took a cross-border investigation team called the Cum-Ex Files in 2018 to blow the whistle on the scandal to start getting to the core of the problem and making it a public discussion that could not be ignored anymore. The cum-ex scandal in Germany started in 2001 and was shut down by Germany authorities in 2012. (European Parliament, 2018)

# 1 Cum-ex

Chapter one focuses on the cum-ex case in Germany. The cum-ex transactions in Europe are explained first, before moving to the main focus that lies on the cum-ex transactions in Germany.

## 1.1 Cum-ex transactions in Europe

In the form of so-called 'cum-ex trades', withholding tax non-compliance has recently gained media interest. A loophole in European countries' tax codes has allowed a wide network of banks, traders, hedge funds and law firms to receive numerous withholding tax refunds on dividends paid only once and costed European treasuries € 55bn. (Deutsche Welle, 2018) The cum-ex practise entails exchanging stocks rapidly around the ex-dividend date with (cum) and without (ex) dividend rights to hide who the real owner of the securities is. (Spilker, 2017; Spengel, 2017) Tax officials are unlikely to follow the transition of ownership as a function of the underlying business microstructure and settlement process in operation. Cum-ex trade typically entails a variety of actors. This involves the initial owner of the shares, banks or traders buying and short selling the shares and another person acquiring the shares right before the ex-dividend date (often using loan facilities provided by the banks to lever the trades). In most defense contracts, the termination time is two to three business days, referred to as T+2 or T+3. The payment must be collected and the stocks transferred to the customer on the settlement date. For instance, if a contract happens two days prior to the ex-dividend date, the settlement could coincide with the ex-dividend date resulting in the acquisition of stocks cum dividend yet ex-dividend delivery. (Wagner and Wei, 2020)

This includes short-trading during ex-dividend days, where the stock is traded 'cum-dividend' before the dividend record date, but delivered after, i.e. 'ex-dividend'. Even if the subsequent tax payment has not been remitted, cum-ex trades are expressly designed to obtain dividend withholding tax refunds. These transactions have been registered in numerous countries, among them Germany, Austria and Switzerland (Special Investigative Commission, 2017). Furthermore the European Parliament addressed the issue in 2018, where among other European countries the Czech Republic was also affected. (European Parliament, 2019)

The avoidance of tax evasion essentially requires European governments to create adequate tax and regulatory systems that eradicate the possibility of tax arbitrage. Since flaws linked with transnational transactions are very difficult to spot, policymakers should implement compulsory monitoring of cross-border tax planning agreements by taxpayer and intermediaries in order to enhance compliance (e.g., Baker, 2015). However, if the above theory would apply, despite also rigorously adjusting and supervising the capital markets, taxing officials will need to take more steps to make it harder to collude merchants. (Buettner et al. 2020)

The activity persisted and was so prevalent that some banks have set up subsidiaries expressly providing cum-ex trading to high net-worth or institutional customers, despite early warnings and testimony from informants as early as 1992. Eventually, a cross-border investigation team called the Cum-Ex Files, helped to put this practice to the fore in 2018. (Cum-Ex Files, 2018, Wagner and Wei, 2020)

The practice mentioned has largely emerged from the manner in which withholding tax is collected. Usually, a dividend-paying corporation withholds tax on dividends and remits it to the treasury, while the shareholder's depository bank issues a reimbursement tax certificate (if applicable). Intuitively, the tax scheme under which the remitter and the issuer of the tax varies should boost the tax enforcement, since the remitter would not personally benefit from the misconduct. Nonetheless, Slemrod (2008) highlights the issues with such a tax scheme and reveals that regulation and the expense of tax administration vary with the name of who actually pays the tax. (Wagner and Wei, 2020) More broadly, Slemrod (2008) claims that the normative economic perception of those who pay tax responsibility is unrelated to the success of a contemporary tax regime does not hold in the presence of tax avoidance or evasion. Buettner et al. (2020) draw on the same tax-remittance economy and analyze the rationality of non-compliance with withholding tax. Centered on a stylised model, they claim that, as compared to carrying out a form of arbitrage to hedge the normal price decline on the ex-dividend day, cum-ex trade is specifically aimed at leveraging current tax laws with collusive elements. Tax officials and policymakers have refused to respond too slowly on multiple notices or to take action.

After taking a short look at the situation for European countries the author will now focus on Germany, as it is the European country that is at the root of the scandal and stands out both because of the extent of the loss of income and because of the duration of the time during which such transactions were possible. (Buettner et al. 2020)

## 1.2 Cum-ex transactions in Germany

The shortfall of tax revenue from cum-ex trades in Germany accumulated to a whopping € 10bn just between 2001 and 2012. (European Parliament, 2018) The estimate was also claimed to be optimistic (Flood, 2018) and it is unclear if it is anywhere near justifying the actual severity of the crisis. Hundreds of entities reportedly engaged in various illegal transactions have since been found in criminal proceedings, while funds have been frozen around the world and multiple prosecutions have either began or are underway at the time of writing. (Jensen and Lassen, 2019) One reason for the vast volume of non-compliance with dividend withholding taxes is that traders searching for arbitrage opportunities simply exploited the tax loophole or, more precisely, the technical error in the way in which the withholding tax was levied and applied. In many media coverage, this perspective has been featured and is intuitive, as the search for arbitration opportunities by traders can be seen as a kind of exploration mechanism that senses all sorts of lucrative transactions. Alternatively, gains associated with illegal tax refunds enable traders to seek withholding tax non-compliance as a deliberate act of tax evasion. Buyers and sellers meet, set up arrangements to receive illegal tax refunds, and conceal their transactions from tax authorities. (Buettner et al. 2020)

Germany, for example, who is at the root of the scandal, did not amend and reform its regulations until 2007. The new rules allowed depository banks to withhold and remit dividend taxes instead of dividend-paying businesses. However, this only applies to domestic depository banks. As a result, only investors with domestic bank accounts were prohibited from receiving illegal tax certificates. After that (at the latest), cum-ex trade went worldwide. The issuing of withholding-tax certificates by depository banks for dividend compensation payments without direct withholding-tax payments is a result of a serious loophole in the withholding tax regime at the period. The key issue is that the withholding tax scheme has established separate parties for the withholding tax (a dividend-paying corporation) and the issuing of a tax certificate (depository banks). Consequently, whether the underlying exchange was a cum-ex deal (without prior withholding tax payment) or an ordinary transaction was not clear for depository banks (with previous tax payment). The depository banks received withholding-tax certificates in both cases. This backdoor was used by cum-ex dealers. (Holzmann et al. 2017)

The German dividend withholding tax scheme was radically reformed in January 2012 in order to discourage cum-ex-trading. More than two decades after the authorities became aware of these trades, that new laws were enforced and the loophole was eventually locked. (Spengel, 2016) Most notably, the difference between 'the party withholding the dividend tax' and 'the party awarding the tax certificate' was removed. After 2012, German depository banks have been responsible both for levying the dividend withholding tax and for issuing a certificate of withholding tax. Germany's familiarity with cum-ex trades, though, did not lead them to alert other nations (Spengel & Schick, 2018). Since then, it has been the responsibility of all banks (domestic and foreign) to withhold and remit dividend taxes, as well as to issue relevant tax refund certificates. As we will see in the future, the consolidation of all roles under one agency seems to be successful in stopping this dishonest conduct. (Wagner and Wei, 2020)

# 2 Methodology

Based on the theoretical analysis, the empiric analysis examines trends in stock markets and the number of transactions around the date of the dividend. One or two days prior to the ex-dividend day, cum-ex trades are expected to turn up in high trading numbers. Notwithstanding, a significant body of literature indicates that tax-motivated selling and dividend capture techniques may justify higher trading practices during ex-dividend dates. (Lakonishok and Vermaelen, 1986; Karpoff and Walkling, 1990; Michaely and Vila, 1995; Dhaliwal and Li, 2006; Akhmedov and Jakob, 2010; Haesner and Schanz, 2013; Hartzmark and Solomon, 2013; Henry and Koski, 2017). In order to differentiate these reasons from cum-ex effects, we are effectively dependent on difference-in-difference calculations. These leverage adjustments in the administration of withholding tax over time as well as variations in the tax treatment of dividends.

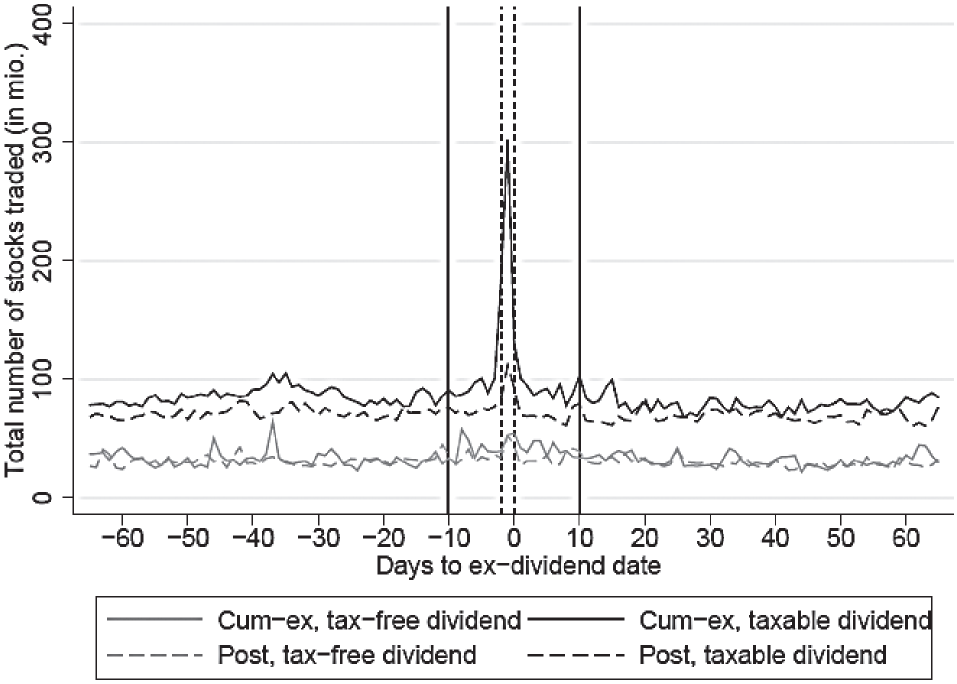
The variations over time are the product of a reform in the handling of the withholding tax in January 2012. Cum-ex transactions may have resulted in fraudulent tax credits and repayment of unpaid withholding taxes in the period up to 2011. In the period from 2012 to 2015 and 2015–2018, this is not the case because the tax administration was amended.

Under German tax law, dividends earned from the current income of companies are subject to a withholding tax of 26.4 percent. Dividends paid out of company capital funds are excluded from tax. These variations in the tax treatment of dividends enable one to test if there are no differences between the shares with taxable dividends in the cum-ex era relative to the shares with tax-exempt dividends in the post period.

# 3 Results

Descriptive data on the time trend of trades is given in figure 1. As stated in the XETRA statistics, this figure indicates the daily average total number of stocks exchanged. Dividends paid out of existing income are subject to withholding tax (taxable dividends) and are thus ideal for cum-ex trading. Dividends from capital savings are excluded from tax (tax-free dividends) and are thus not appropriate for cum-ex trading. Trading amounts are presented separately for taxable dividend shares (black lines) and tax-free dividend shares (gray lines), both for the cumulative period from 2009 to 2011 (solid lines) and for the postulated period from 2012 to 2015. (dashed lines). Prior to the ex-dividend day, the vertical dotted lines mark a two-day window. About the ex-dividend day, the vertical straight lines mark the 21-day trading window. It indicates, as reported in the XETRA data, the daily average total number of stocks traded over a 131-day period over the ex-dividend dates, which are normalized to zero. The trade volumes are seen separately for taxable dividends (black lines) and tax-free dividends (gray lines) stocks, both for the cum-ex era (solid lines) and for the post-period period (dashed lines). In the case of taxable dividends for the cum-ex cycle, the figure shows that, in the last two days prior to the ex-dividend date, the overall total amount of stocks exchanged rose significantly by nearly 200 per cent and subsequently dropped down to usual levels after the ex-dividend date. Interestingly, in the cum-ex period and not in the post period, this pattern occurs. For events with tax-exempt dividends, no significant rises are indicated (Buettner et al. 2020).

**Figure 1**: Daily average total number of stocks traded (all German stock exchanges, 2009–2015

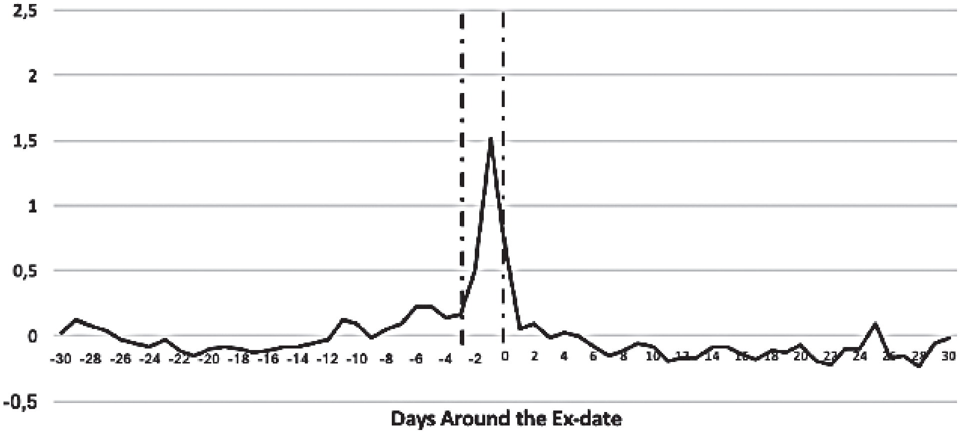



*Source: Buettner et al. 2020*

The following figures should help explain the first figure in more detail. The time period 2015–2018 is also added to give a better overview over the topic and to show if the regulations, introduced by the German government, did really help stop the cum-ex schemes.

It is not surprising, that in view of the cum-ex scandal, that Germany has the highest European coefficient for the entire century. The amount traded over the ten-year period on the two days before the ex-date is, on average, 1.0382 standard deviations above regular volume. For the rest of the European countries, the average coefficient is 0,33 standard deviations. The average trading trend in Germany is shown in figure 2 for dividend events between 2009 and 2018. For dividend events between 2009 and 2018, figure 2 shows the average trading pattern in Germany. As the figure reveals, abnormal trading volume on T-1 is primarily driving the cum-ex window coefficient. Whilst the average volume on T-1 is roughly 1.5 standard deviations above normal volume, the volume on T-2 is not substantially high (Jensen and Lassen, 2019).

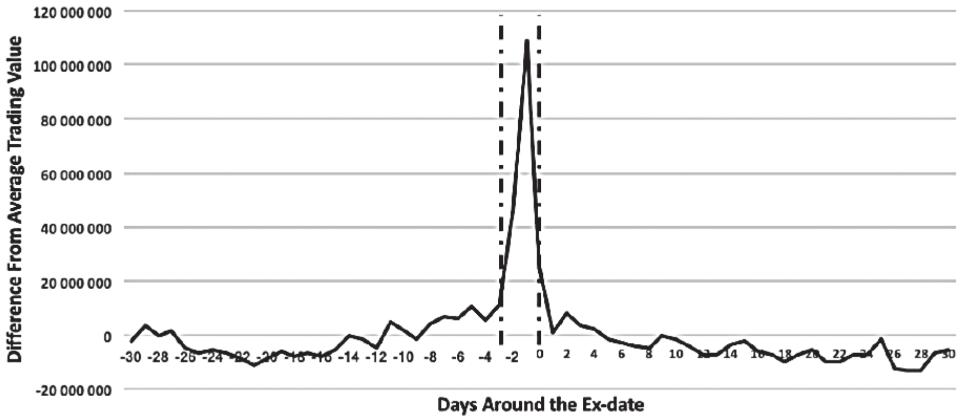
**Figure 2**: Average standardised trading volume in Germany on days around the ex-date for the whole ten-year period (2009–2018). The vertical dashed lines mark the normal cum-ex window (T-2 and T-1)




*Source: Jensen and Lassen, 2019*

Figure 3 indicates a deviation from the average trading value of the same duration in order to analyze this abnormality in terms of value. The tremendous increase in value of T-1 is striking, as estimated. On average, the disparity in the allocation of dividends between 2009 and 2018 from the average market value of T-1 alone corresponds to approximately EUR 110 million (Jensen and Lassen, 2019).

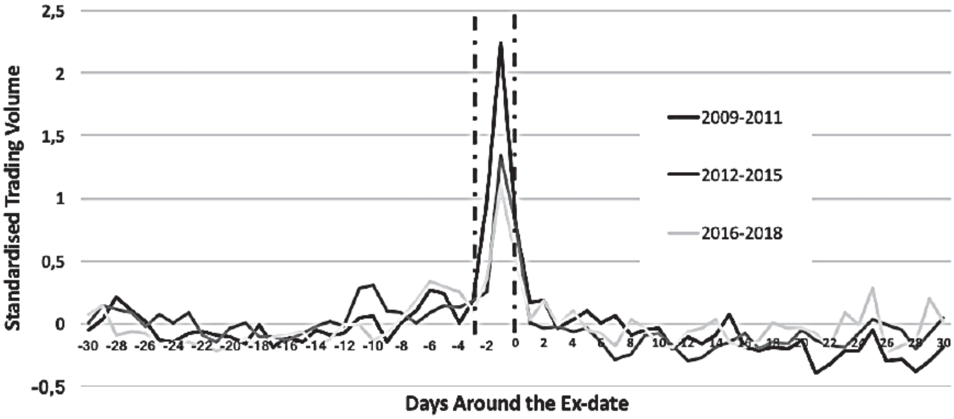
**Figure 3**: Average difference from average trading value in Germany on days around the ex-date for the whole ten-year period (2009–2018). Trading value is denominated in Euros. The vertical dashed lines mark the normal cum-ex window (T-2 and T-1)




*Source: Jensen and Lassen, 2019*

It is essential to bear in mind that cum-ex transactions are only expected to occur in the three years from 2009 to 2011, as cum-ex was allegedly stopped in Germany in 2012. It is also not shocking because, when looking at the individual coefficients for and subperiod, it is obvious that these exact years are the driving force behind much of the overall abnormal exchange. The coefficient for the first period (2009–2011) is 1,6763. The coefficient for the second period (2012–2015) is 0,8236. Lastly the coefficient for the third period (2016–2018) is 0,7621 (Jensen and Lassen, 2019). Figure 4 below shows the trend for different cycles with uniform trading volumes.

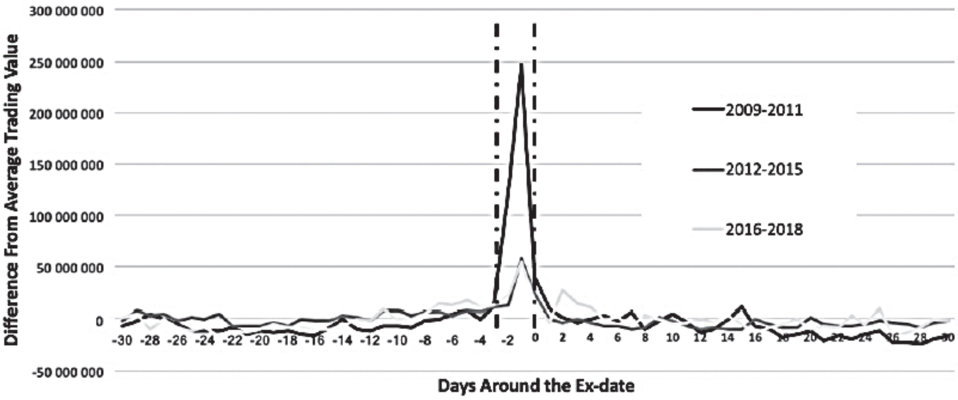
**Figure 4**: Average standardised trading volume in Germany on days around the ex-date for the separate subperiods. The vertical dashed lines mark the normal cum-ex window (T-2 and T-1)




*Source: Jensen and Lassen, 2019*

The coefficients and the figure clearly demonstrate a drop in the irregular trading rate between both cycles (first and second). This is in accordance with the results of Buettner et al. (2018) and indicates that the administrative reform introduced in 2012 had an impact. It is, however, important to bear in mind when looking at the variations above that figure 4 is showing differences in uniform volumes. Looking at standardized variables is helpful, since it makes for relative similarities between nations, but it may also provide a biased view of the absolute challenge, provided that both big and small businesses are similarly weighted. This is illustrated in figure 5, where the gap between the average trading value for the different times is shown. The graph shows that, in terms of economic benefit, the fall in tax-motivated trade is, in effect, far more important than what one would get from looking at uniform amounts.

**Figure 5**: Average difference from average trading value in Germany on days around the ex-date for the separate subperiods. The vertical dashed lines mark the normal cum-ex window (T-2 and T-1)




*Source: Jensen and Lassen, 2019*

It is surprising, though, that the erratic exchange patterns in the second and third periods are as high as they are. In particular, for the second and third subperiods, the coefficients, which are equal to 0.82 and 0.76, are the second highest coefficients for the European-wide nation in their period (Jensen and Lassen, 2019). This indicates that Germany has still remained one of the countries most influenced by tax-motivated trade, long though cum-ex was supposedly halted.

One potential explanation for this is that trade in cum-cum may trigger huge volumes. Since Spengel (2016) claims that cum-cum transactions are often carried out through share loans, it is possible that a substantial number of cum-cum transactions are also carried out through repurchase agreements. Purchase of T-1 agreements will also serve as a cause for spikes. The problem with this theory, though, is that very few, let alone any, difference between the second and third periods can be seen. This is not in accordance with the introduction of the latest German legislation to fight cum-cum in 2016. In reality, according to the CumEx-Files (CumEx-Files, 2018), cum-cum trade still takes place in Germany in a less violent manner.

The spikes only constitute a fraction of the real problem, if Spengel (2016) is right in saying that cum-cum is mainly carried out in Germany by share lending and if the spikes as shown in figure 5 are really triggered by cum-cum in 2012–2015 and 2016–2018. Still, even if the spikes are not quite as high in the second and third periods, the trends are worryingly identical to the cum-ex phase trend.

The likelihood, that the cum-ex criminals have invented a new cum-ex system that will make it easier to bypass the administrative reform made in 2012, cannot however be precluded. In any case, it is concerning that Germany, as a nation that has taken steps to tackle both cum-ex and cum-cum, is evidently so influenced by tax-driven trade.

## Conclusion

This paper analysed a major tax system loophole in the case of dividend withholding taxes, called cum-ex. The cum-ex transactions in Europe were explained first, before moving to the main focus that lied on the cum-ex transactions in Germany.

Cum-ex trades caused European treasuries a net loss of around €55bn and German treasuries a net loss of around €10bn between the year 2001 and 2012, using irregular trading activity around the ex-dividend date. This calculation is based on market statistics and a frequently used method of cum-ex trading involving short selling and rapidly repurchasing stock around the ex-dividend date, although the full scope of this activity will possibly never be understood. It was not until January 2012 that the German dividend withholding tax scheme was radically reformed in order to discourage cum-ex-trading. More than two decades after the authorities became aware of these trades that new laws were enforced and the loophole was eventually locked. Additionally did it take until 2018, that a European cross-border investigation team called the Cum-Ex Files to blow the whistle on the scandal to start getting to the core of the problem and making it a public discussion that could not be ignored anymore.

On a variety of levels, the cum-ex case is significant. First and foremost, the amounts extracted from German accounts are substantial. The allocation of these funds represents a subtraction from the funds allocated to the government for the procurement of public goods. Adequate and balanced public finances are required to accomplish this aim. Second, the transactions involved are relatively simple and trivial. Perpetrators have been able to take advantage of the long-established resources created by the law to carry out transactions. Contrary to existing stereotypes, large-scale tax evasion does not appear to rest, at least often, on arcane knowledge and the ability to orchestrate impenetrable sophistication. Third, and considering this, the regulatory loopholes that make it possible for the systems to be effectively introduced are equally clear and banal.

Remedies are easily accessible. Increased and timely knowledge exchange, convergence bridges between contiguous regulatory realms and sufficient regulatory capability would help to deter the recurrence of similar practices. Private networks of offenders have been able to pool resources from a wide variety of fields and collaborate across organisations. It is necessary to enable public networks of regulators to do the same. Apparently, the fact that Germany, which has adopted regulations aimed at countering cum-ex, is already one of the country’s most highly impacted, may also mean that the European tax authorities are unable to deal with the ingenuity of lawyers and other tax specialists whose goal is to manipulate the system's loopholes.

From today's perspective, numerous other European countries have not escaped this type of tax fraud involving refunds of withholding tax that has not been paid. The aftermath of the cum-ex transactions keeps them busy and they need to come to terms with them. Among them e.g France, Austria, Switzerland, Poland and the Czech Republic. It remains to be seen when all affected European countries will seriously consider changing laws to finally put a stop to cum-ex transactions.

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