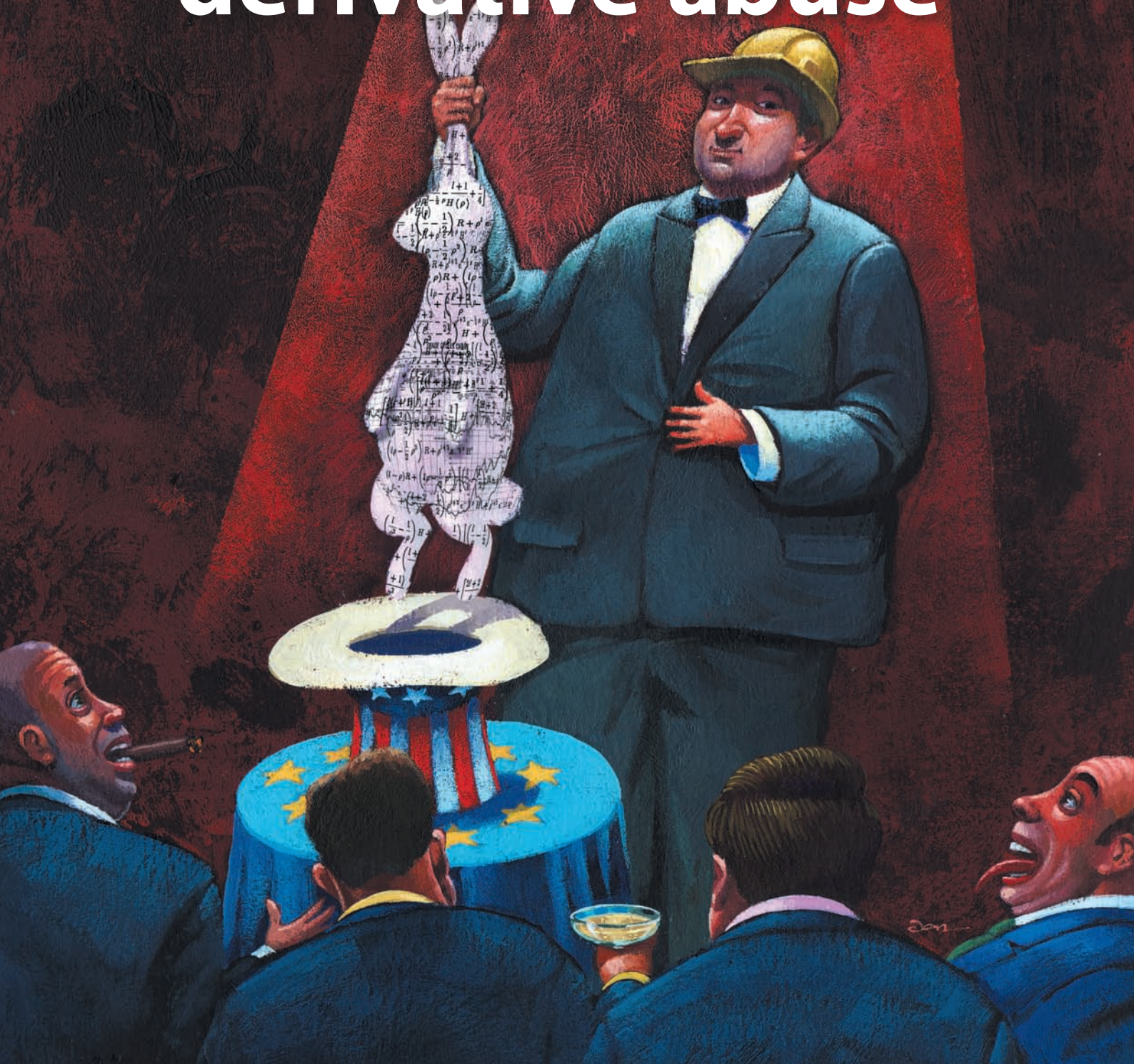


- Extractive industries are big users of a financial instrument called derivatives, which can be abused to transfer revenues before it's taxed out of host countries
- The value behind all derivatives is 10 times the world GDP
- One simple policy proposal can be enacted upon unilaterally that can stop abuse while protecting proper use of these instruments

# Protection from derivative abuse



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# DERIVATIVES – LINKS BETWEEN NATURAL RESOURCES AND TRANSFER OF FUNDS

## **The difference between use and abuse of financial instruments**

In the report 'An extended country-by-country reporting standard for the extractive industry. A policy proposal to the EU' by Publish What You Pay Norway (PWYP Norway), we identified several practices and instruments that extractive industry companies are using to transfer untaxed funds across national borders. Some of these practices and instruments are regarded as legitimate and legal, and thus few realize the harmful effects when these practices and instruments are abused to transfer pre-tax funds and thereby reducing the tax base in host countries.

One of these practices is the extensive use of the financial instruments called derivatives in extractive industries. Derivatives have received their name from the fact that they are products derived from a market place for 'physical' products like money (currency markets) or physical goods (commodity markets). A derivative is a product that is linked to the pricing in the market place the product is derived from, but where there is no physical delivery to back the transactions, only settlement of derivative contracts.

Extractive industry companies are heavy users of capital markets (raising equity), money markets (raising debt financing), currency markets (enabling the transfer of goods and services across borders), commodity markets (selling their produce) and derivatives markets (transferring risk across companies and across borders).

Insight into derivatives and practices that extractive industry companies use derivative terminology for are important in order to understand fully how some extractive industry companies are misusing these instruments for their own benefit at the expense of host countries and home countries alike.

One weakness of the current limited information coming from extractive companies is that it so condensed and aggregated that it is impossible, even for an interested constituent, in any form or shape to relate the information about derivatives usage to the business environment that the corporation operates within. Thus, it is impossible for investors or other stakeholders to fully understand whether it is use or abuse of derivatives that is taking place within the larger picture painted in the financial statements of the corporations.

This report presents the various forms of derivatives used, their legitimate usage and gives real life examples of how these instruments have been or can be abused in order to transfer funds across borders with the intention to avoid taxation on parts of the revenue generation from extraction activities. We also show how some companies are using derivatives terminology on some transactions that are not derivatives at all, but are rather long-term contracts that are mispriced within the corporation.

This report shows that there are two general methods that can be used to avoid derivatives abuse. The separation method is the one recommended in this report as this method most closely resembles the way most countries have organized their tax systems. The separation method essentially suggests that countries can unilaterally single out use of financial instruments in a separate tax base from the extractive income tax base. This means that gains are taxed based on the general tax rate in the country and losses can be used against current gains or carried forward and taken against future gains. Companies using true hedging, i.e. they have neutral expectations or they are expecting gains in the long run, will not be harmed and can continue using derivatives while the companies that are amassing losses in a country would find that they have no tax shield for the abuse of derivatives anymore.



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## PREFACE

Today, trade with non-renewable and finite natural resources does not have to be connected to the physical and geographical extraction of oil or minerals. Much of today's trade is through the use of financial instruments, which can take the form of many different tradable assets.

In this report, Publish What You Pay Norway would like to illuminate the harmful use of derivatives in the extractive industries.

This is important because derivatives are one of the perhaps most complicated financial instruments, which are an integrated part of the global financial system. Derivatives can be misused by the extractive industry in order to move capital across countries, most often for the companies' own benefit and at the expense of host countries. This way of using the financial instrument of derivatives has up until now been underexposed.

Derivatives are universal instruments, and abuse of derivatives harm both rich and poor countries. Poor countries are harmed most. Developing countries are particularly vulnerable when they are tapped for perhaps the only financial basis that is of such a size that it can contribute to fight poverty, and derivatives are such complicated instruments that few developing countries has the necessary insight possibilities, resources or capacity to uncover abuse of derivatives.

Many nation states are now trying to move in a direction of more transparency and more accountability. For resource rich developing countries it is particularly important not to loose capital that should be translated into a common good.

This is why over 650 organizations from over 50 countries have organized in Publish What You Pay and want to know whether lucrative deals based on extraction with their countries non-renewable and finite resources provide meaningful investment opportunities to escape poverty.

The objective of this report is to build upon and expand our report ***'An extended country-by-country reporting standard for the extractive industry. A policy proposal to the EU'*** and to present our proposal for how abuse of derivatives can be halted while at the same time make sure that legitimate usages of derivatives are kept unharmed.

**Mona Thowsen**  
General secretary, PWYP Norway

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This report present how derivatives have been, and can be, used to transfer untaxed money out of host countries (countries with extractive industry operations) and keep this money circulating within a multinational corporation without taxation or without taking the money back to the home country (parent company jurisdiction) before the money is needed for dividends to shareholders.

If the reader would like to share any comments, viewpoints, information or have any questions or suggestions for further investigations, please contact us at: **post@pwyp.no**

# 1. SUMMARY

The objective of this report is to build upon and expand the report '*An extended country-by-country reporting standard for the extractive industry. A policy proposal to the EU*<sup>2</sup>' by Publish What You Pay Norway, and to present our proposal for how abuse of derivatives can be halted while at the same time make sure that legitimate usages of derivatives are kept unharmed or promoted.

In that report, we have already identified several practices and instruments that extractive industry companies are using to transfer untaxed funds across national borders. Some of these practices and instruments are regarded as legitimate and legal, and thus few realize the harmful effects when these practices and instruments are abused to transfer pre-tax funds and thereby reducing the tax base in host countries.

One of these practices is the extensive use of the financial instruments called derivatives and derivative terminology in extractive industries. A derivative is a product that is linked to the pricing in the market place the product is derived from, but where there is no physical delivery to back the transactions, only settlement of derivative contracts. While most markets are more straight-forward with respect to what they deliver (equity, debt, currency, sales forums), derivatives markets are not transparent to most people due to the complexity of the products and what corporations do with these instruments.

Insight in how the extractive industry companies use derivatives and how they use derivative terminology is important in order to understand fully how some extractive industry companies are misusing these instruments for their own benefit at the expense of host countries and in unfair competition with other extractive industry companies.

This report presents the various derivatives, their legitimate usage and gives real life examples of how these instruments have been or can be abused in order to transfer funds across borders with the intention to avoid taxation on parts of the revenue generation from extraction activities. We also show how some companies are using derivatives terminology on some transactions that are not derivative at all, but are rather long-term contracts that are mispriced within the corporation.

In the words of Randall Dodd with regards to avoiding taxation: *Flexibility of derivatives facilitates moving income across borders or across time or converting between capital gains and ordinary income.* The well-known investor Warren Buffet termed as early as in 2003 derivatives as 'financial weapons of mass destruction', and one can see why when we look at the dimensions of these instruments. A study in 2011 done by Michael P. Donohoe concluded: *The inclusion of financial derivatives in numerous tax shelters suggests tax avoidance is an economically significant, yet previously unexplored, aspect of their use.*

This report suggests a very effective method to avoid derivatives abuse: countries can unilaterally single out use of financial instruments in a separate tax base from the extractive income tax base. This means that gains are taxed based on the general tax rate in the country and losses can be used against current gains or carried forward and taken against future gains. Companies using true hedging, i.e. they have neutral expectations or they are expecting gains in the long run, will not be harmed and can continue using derivatives while the companies that are amassing losses in a country would find that they have no tax shield for the abuse of derivatives anymore.

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<sup>2</sup> "An extended country-by-country reporting standard for the extractive industry. A policy proposal to the EU"  
ISBN 978-82-93212-03-4'

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## 2. EXTRACTIVE INDUSTRIES IN THE MARKETS

### 2.1 Introduction

When states trade with non-renewable and finite resources it is essential that this trade benefits the country and all its citizens. In order to create a sustainable and long-term growth that may generate development for the common good of everybody it is necessary to increase the skills in the workforce through education and more advanced industries. This is in the understanding that the future value of human capital even in resource rich countries like Norway is far higher than the future value of the non-renewable resources in the country.

The objective of this report is to build upon and expand what is said about derivatives abuse in our Country-By-Country Reporting (CBC) report, and to present our proposal for how abuse of derivatives can be halted unilaterally by individual countries that experience these abuses while at the same time make sure that legitimate usages of derivatives are kept unharmed in these countries.

In the CBC report Publish What You Pay Norway has identified several practices and instruments that extractive industry companies are using to transfer untaxed funds across national borders. Some of these practices and instruments are regarded as legitimate and legal, and thus few realize the harmful effects when these practices and instruments are abused to transfer pre-tax funds and thereby reducing the tax base in host countries and home countries alike.

One of these practices is the extensive use of the financial instruments called derivatives and derivative terminology in extractive industries.<sup>3</sup> Derivatives have received their name from the fact that they are products derived from a market place for 'physical' products like money (currency markets) or physical goods (commodity markets). A derivative is thus a product that is linked to the pricing in the market place the product is derived from, but where there is no physical delivery to back the transactions, only settlement of derivative contracts. Use of derivative terminology on contracts and transactions are also touching on the neighbouring area of transfer pricing, and this will therefore form part of this report.

While most markets are more straight-forward with respect to what they deliver (equity, debt, currency, sales forums), derivatives markets and derivatives terminology are not transparent to most people due to the complexity of the products and what corporations do with these instruments. Insight into derivatives and practices that extractive industry companies use derivative terminology for are thus important in order to understand fully how some extractive industry companies are misusing these instruments or this terminology for their own benefit at the expense of host countries, and thus reducing these countries ability to educate its population and increase the future value of its human capital.

One weakness of the current limited information coming from extractive companies is that it so condensed and aggregated that it is impossible, even for an interested constituent, in any form or shape to relate the information about derivatives usage to the business environment that the corporation operates within. Thus, it is impossible

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<sup>3</sup> Mohamat Sabri Hassan and Jenny Stewart: *'The transparency derivatives disclosures by Australian firms in the Extractive Industries'*, 2006, obtainable from <http://eprints.qut.edu.au/2365/2/2365.pdf>



for investors or other stakeholders to fully understand the use or abuse of derivatives or derivatives terminology within the larger picture painted in the financial statements of the corporations.

This report presents the various derivatives, their legitimate usage and gives real life examples of how these instruments have been abused in order to transfer funds across borders in order to avoid taxation on parts of the revenue generation from extraction activities. We also show how some companies are using derivatives terminology on some transactions that are not derivatives at all, but are rather long-term contracts that are mispriced within the corporation.

## 2.2. Multinationals and markets

Extractive industry companies are heavy users of capital markets (raising equity), money markets (raising debt financing), currency markets (enabling the transfer of goods and services across borders), commodity markets (selling their produce) and derivatives markets (transferring risk or money across companies and across borders).

Market places for selling oil were some of the first that gained the size that made the market place presumably meet the assumption that no individual buyer or seller could materially influence the pricing in the market. Other petroleum products like gas and natural gas liquids (NGL) were then pegged to the price of oil. Markets for selling minerals, metals and agricultural produce have followed.

Markets where unprocessed or partially processed goods are sold are usually called commodity markets. A majority of commodity markets are catering to produce from extractive industries. The common denominator for these markets are that the produce sold are fairly homogenous, i.e. that the produce from one corporation can hardly be distinguished from the produce from another corporation.

Many of these markets are still so small that the pricing in the market can still be influenced from time to time by individual actors or a group of actors. Randall Dodd from the Derivatives Study Center mentions four types of abuse of derivatives<sup>4</sup>:

- Fraud and manipulation of the market itself (market mispricing)
- Outflank existing prudential regulation (circumvention)
- Distorting accounting rules and financial data (opacity)
- Avoiding taxation (transfer of funds)

These types of abuse are not limited to derivatives related to commodities or even to derivatives, but derivative markets related to commodities are more prone to these abuses as these markets are generally the smallest of the derivatives markets (fixed-income derivatives were alone 77% of the total derivative markets in 2007 derivatives) and hence easiest to manipulate and as they consist of extremely flexible instruments.<sup>5</sup> In the words of Randall Dodd with regards to avoiding taxation:

*Flexibility of derivatives facilitates moving income across borders or across time or converting between capital gains and ordinary income.*

Regulators are generally more concerned with market mispricing, circumvention and opacity in the market place and leave the problem of transfer of funds to the tax

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<sup>4</sup> [http://www2.weed-online.org/uploads/randall\\_dodd.pdf](http://www2.weed-online.org/uploads/randall_dodd.pdf)

<sup>5</sup> Deutsche Börse Group, 'The Global Derivatives Market', April 2008, obtainable at [http://math.nyu.edu/faculty/avellane/global\\_derivatives\\_market.pdf](http://math.nyu.edu/faculty/avellane/global_derivatives_market.pdf)

authorities. However, as we shall see in this report, unilateral regulation by individual countries who experience tax avoidance using derivatives or derivative terminology is generally much less costly and with more immediate effect than trying to achieve the same goal through the tax authorities.

### 2.3 Multinationals and the use of transfer instruments

There has been a lot of focus on transfer pricing practices and the secrecy practiced within the extractive industries that have led to the OECD guidelines on transfer pricing and the Extractive Industries Transparency Initiative (EITI) respectively.

In the CBC report PWYP Norway outlined the following instruments that are more notorious in the ability to shift profits from an activity from one country to another:

- Corrupt practices
- Derivatives abuse
- Mark-to-market abuse
- Tax regulation abuse
- Transfer mispricing
- Criminal practices

In this report we will focus on derivatives abuse and the related area of derivative terminology abuse, which is bordering or goes into the transfer mispricing area.

#### DERIVATIVES ABUSE

The use of derivatives started with the practice of hedging i.e. the use of financial instruments to secure (hedge) that a corporations revenues would not be lower than, or cost not be higher than, the levels entered into in the hedging transaction.

Used correctly, hedging is a good instrument in securing profits in an uncertain world, particularly protecting earnings against currency fluctuations arising from timing differences between costs and revenues or between pretax profits and taxation.

Hedging is different from speculation, although the term hedging is often being used for both in order to lend legitimacy from the first to the latter. Use of financial instruments involving other than currency hedges mostly stem from speculation, i.e. where a company takes a position in the derivatives market to try to 'beat' the market by speculating in that the prices will be different in the future than what the market has priced in.

Derivatives are unfortunately also an ideal instrument to move large amounts of pretax earnings from one tax jurisdiction to another. By entering into opposite derivative instruments with the 'wrong' timing it is possible to create huge losses in normal or high tax jurisdictions and equivalent profits in low or normal tax jurisdictions, thus being able to transfer huge amounts of untaxed funds legally out of a country.

#### TRANSFER MISPRICING

Transfer pricing is a legitimate instrument in valuing transaction cross-borders and cross-companies. The problem in transfer pricing is the mispricing that occurs where extractive companies are trying to enter into internal agreements whereby revenues are priced lower than market in the resource rich countries while costs are priced higher than market in these countries.

A lot of the mispricing is obviously intended as tax havens are very often an intermediary between the resource rich country and the home-base country. If this was unintentional there would have been no reason to include the intermediary in the first place.

Involving tax havens in the corporate structure is therefore a red flag with respect to the potential use of transfer mispricing (or corrupt practices, derivatives abuse, mark-to-market abuse or tax regulation abuse).

One example of to which extent the extractive industries are users of tax havens were revealed in the 'Piping Profits' report. By trawling filings in UK, US and Canadian stock exchanges, PWYP Norway found that ten of the worlds most powerful extractive industry giants together operate with over 6038 subsidiaries, and that 34,5 % of these are incorporated in tax havens.<sup>6</sup>

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<sup>6</sup> <http://www.publishwhatyoupay.no/pipingprofits>

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## 3. SIZE AND MECHANICS OF DERIVATIVE MARKETS

Derivatives have their own terminology. We refer to chapter 6 and the appendix for detailed explanations of these instruments for the general reader.

Derivatives can be divided into two general families:

- Contingent claims, i.e., options
- Forward claims, which include exchange-traded futures and OTC-traded forward contracts and swaps

There are essentially two derivative markets:

- exchange-traded markets with standardized contracts defined by the exchange and
- over-the-counter markets with more individually defined contracts agreed when entering into the derivative transaction.

An exchange is a place where financial institutions, companies and individuals are trading the products that the exchange offers. New York has the world's largest stock exchange with the acronym NYSE (New York Stock Exchange). London has the largest commodity exchange for minerals and metals with the acronym LME (London Metal Exchange).

Financial institutions can, in addition to trade standardized products at an exchange, also offer products directly to customers without going through an exchange. These directly sold products are called over-the-counter products.

Over-the-counter (OTC) markets are far larger than exchange-traded markets, and the trading gap has increased over the years whereby the markets in 2011 are approaching<sup>7</sup>

- \$80-100 trillion in notional value for exchange-traded derivatives – up from approximately \$20 trillion in 2000<sup>8</sup> - and
- \$600-1000 trillion in notional value for OTC market – up from approx. \$80 trillion in 2000.<sup>4</sup>

The gross market values of these are approximately 1%, i.e.

- Up to \$1 trillion for exchange-traded derivatives
- Up to \$10 trillion for OTC market derivatives

The 2011 US budget deficit, which is of great concern to the US, is as a comparison \$1,3 trillion dollars.

The notional value is the principal used to calculate the payments in a derivate. The gross market value is the value arrived at when summing up the positive market value of **one side** of each derivative contract.

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<sup>7</sup> Estimates range of notional value starting at \$600 trillion (Money Morning: 'Derivatives: The \$600 trillion time bomb that's set to explode', 12. October 2011) and going upwards from \$600 trillion to \$1500 trillion depending on source and what is counted in (Michael Snyder: 'The coming derivatives crisis that could destroy the entire global financial system', 21. October 2011).

<sup>8</sup> John C. Hull: 'Options, Futures and other Derivatives', 2011, ISBN 13 978-0-273-75907-2, figure 1.1

The gross market value is the value that could be expected to be the outcome had all derivative contracts been settled at the same time. The total gross market value is approximately \$11 trillion, which is actually below the \$13 trillion/EUR 10 trillion estimated by Deutsche Börse Group at the end of 2007, i.e. before the financial crisis of 2008.

The gross market value of the OTC part of only the commodity based derivatives was \$471 billion, or roughly 5% of the entire OTC market. Corporations outside financial institutions account for approximately 70% of the commodity based derivatives, i.e. around \$330 billion. A majority of this is expected to be oil & gas and mining corporations as sellers of production and buyers and sellers of derivatives. However, the extractive industries are making use of other derivative instruments as well so it is difficult to assess the total derivative volume of the extractive industries.

If we assume that 50% of the \$471 billion (the other 50% held by financial institutions or companies that are using commodity based derivatives but are not extractive industry companies) are positions held by the selling side in the extractive industry companies it would mean that these companies had a gross market value of \$235 billion. If these derivatives had been settled instantly, it would have given rise to net taxable gains and losses of \$70 billion if the average tax rate was 30% in the countries involved. Most often one will find that the gains and losses are unbalanced, and that host countries of oil & gas and mining activities are receiving massive losses and very little gains.

The notional principal of the commodity-based derivatives in the OTC market in June 2011 was approximately \$3,2 trillion, and 50% of this (relating to oil & gas and mining activities) would be \$1,6 trillion. In comparison, the 2011 US budget deficit, which is of great concern to the US government due to its size was \$1,3 trillion and the entire 2011 World GDP (gross domestic product) is only around \$65 trillion.

It should here be noted that this is only the OTC based commodity instruments. To this it can be added the exchange-based commodity based derivatives and other forms of derivatives, for example currency derivatives, are used quite extensively by extractive industry companies. If the use of derivatives by extractive companies were in balance with the derivative markets, the total use of derivatives in extractive industries would be in the range of \$4,7-5,2 trillion (this is only an illustration, as it is impossible by the current information to estimate this with any certainty). The potential problem for the tax base in host countries and home countries alike is huge.

The well-known investor Warren Buffet termed in 2003 derivatives as 'financial weapons of mass destruction', and one can begin to understand why when we look at the mere dimensions of these instruments.<sup>9</sup>

We should remember that a derivative has NO value of its own. A derivative, outside the small percentage that is used for true hedging, is essentially a side bet (gambling) that is based on a speculation in the future pricing of the underlying asset or, more correctly, the movement in a market index. The derivative thus takes its pricing from where the pricing of the underlying could be at some future point – this is the case for forwards (the price of the asset agreed today but settled in a lump sum at a point in the future) which is traded on the OTC market or futures (the price of the asset agreed today, settled at a point in the future, but with monthly payments as the futures contract is marked-to-market, i.e. that the value is recalculated each month) which is traded on the exchange-market.

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<sup>9</sup> <http://www.fintools.com/docs/Warren%20Buffet%20on%20Derivatives.pdf>

A peculiarity with the derivative markets is the low amount of contracts that actually go unchanged to delivery. The reason for this is that most traders within financial institutions choose to close out their positions prior to the delivery period in the derivative contract. Closing out a position means entering into the opposite trade to the original one. The exception may actually be in the commodity derivatives market where there may be quite a variety in the quality of what is available in the marketplace, and that opposite transactions are entered into from the start, and that the length of the derivative is connected with the sale and delivery of the actual produce from the extractive industry company.

Important elements of the contract in addition to the underlying asset and type of contract are the size of the contract and the delivery arrangements. The size of the contract is important in order that it is tradeable, especially if the contract is in an exchange market, like a futures contract. Delivery arrangements will usually specify a specific place (important in relation to transportation costs in case a delivery of a contract needs to be done) and a specific time. In future contracts the delivery time will be within an entire month. For exchange traded contracts like futures, there are also price movement limits that are specified by the exchange in order to prevent large price movements from occurring because of speculative excesses.

The main difference between exchange based derivatives and OTC derivatives in addition to standardization is credit risk. There is a very real risk that the party on the other side of an OTC trade will default. This credit risk is nowadays usually dealt with through collateralization, i.e. that security deposits are done in order to ensure that obligations will be honored. This is especially the case when the two parties in a deal are not affiliated. When two affiliated companies are entering into opposite trades at the same point, or using a corporate clearing house, the need for collateralization is not the same.

In derivative trading one could usually distinguish between day traders and position traders. Day traders seldom hold their positions more than one day. These traders have now for the most part been replaced with robot trading who can process data and act much faster on small changes. Oil & gas and mining companies will normally be position traders to the extent that they want to move pre-tax profits across national borders. Day trading or robot trading will usually involve various orders that will be executed as soon as certain conditions are fulfilled. Position trading can also involve the same patterns but to a lesser extent as the more normal thing would be to enter into an opposing contract in order to lock in the desired effect.

For more information on specific terms used in this and later chapters, please refer to the list of terminology at the back for further definitions and explanations.

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## 4. HEDGING VERSUS SPECULATION VERSUS ARBITRAGE

There are three primary reasons for the development and utilization of derivatives:

### a. Hedging

Hedging is used by parties who seek to manage existing risks by entering into a derivative transaction which reduces their risk or exposure to a potential future event. This is no different than the reasoning behind an insurance contract. The existing risks could be exposure in an investment portfolio, price changes in oil for a petroleum company or in a mineral or metal contract for a mining company, shifts in interest rates to bank etc.

Hedging is often seen as a good thing, but one should be aware of that both the revenue of nations and shareholders can be detrimentally affected by hedging although the argument for hedging is to protect profits through maximizing revenue and minimizing cost. 'True' hedging is a good thing, but tax authorities seldom find evidence of 'true' hedging that protects the tax base of a company in a host country. Home countries are seldom on the receiving end of the derivative contracts.

True hedging usually entails that the company in question only enters into a derivative contract which cancels out negative effects connected to the production itself, for example that a derivative contract may negate any negative price shocks after the derivative contract has been entered into. However, the contract also negates any positive price shocks unless remediating actions are taken or that the contract type is an option and not a forward/futures contract.

Another matter that companies should consider before they enter into hedging transactions connected to the produce of the company is that they may actually interfere with actions from their shareholders. We can site two examples here:

- a long-term shareholder may hold a well-diversified portfolio of shares. If these include nickel mines or copper mines and industries that are heavy users of nickel or copper, then that shareholder is actually well protected against price fluctuations on nickel or copper. If a large nickel or copper producer starts to hedge their produce they may actually change the profits of the company in such a way that the portfolio of the shareholder does not have the same properties as before.
- a short-term shareholder may want to go into or out of an oil & gas or mining company because he or she has certain expectations to the consequences of a market trend, underlying supply and demand picture or a geopolitical situation. If a company has hedged its production, the profits of the company may therefore behave differently than the shareholder(s) expect, and the company may come under criticism for not giving their shareholders the information they needed to act accordingly.

As we see, neither long-term nor short-term shareholders are necessarily helped by companies that are utilizing hedging as part of their strategy. However, as we shall see in chapter 7 below, this picture changes entirely if the company starts to using derivatives for other purposes than hedging to the benefit of the shareholder and to the detriment of host and home countries.

It is not true hedging if one and the same group enters into two opposing derivative contracts. Those two contracts will normally negate the effects of each other for the group at large, but will essentially transfer profits from one company in the group to another.

**b. Speculation**

Speculation is commonly used by hedge funds or traders who seek to generate profits by placing a bet on the price/rate movement of an asset. Although speculation can produce a high return on investment, the downside risks are equally as prominent as demonstrated amongst other by the collapse of Long Term Capital Management in September of 1998.

Because of the high degree of leverage one can take in speculative contracts, an adverse change in prices could result in rapidly increasing debt and a portfolio worth millions could fall to almost zero within few hours.

Most transactions that companies enter into are actually not hedging, especially when it comes to entering into commodity based derivatives, but are rather speculation. The reason for this is that they are actually not only protecting an asset from negative effects, but that they are interfering with the natural relationship between various elements in the profit and loss or balance sheet statement.

One of these relationships is for example between the sale of production that has time between the actual production being sold and rolling out of the production facilities and up to the point when sale has been paid for by the customer and settlement has been converted to the currency that the cost and taxes are paid in.

Doing 'hedging' may give a company a different cost to revenue or tax to revenue relationship than competitors and as such the 'hedging' actually turns into one big experiment or, in other words, speculation. Whether the company comes out on top in this speculation is far from certain, especially since 'hedging' usually negates negative effects by limiting the upside.

One should not forget that it is the upside that most often create the difference between competitors. The fact that a competitor receives more revenues and thus pays more taxes also means that that competitor has more after-tax profits left than the company that has 'hedged' and has foregone the higher revenue in order to stay protected from a price fall.

One example from daily life of most people may illustrate this: unless one is in a very hard economic situation and does not tolerate any cost increases, most people will in the long run benefit more from having floating rather than fixed interest rates or electricity prices.

The same is the case for the extractive industry company; unless the company is very cash constrained and cannot tolerate revenues below a certain level, an extractive company will in the long run be better off by being exposed to the market pricing than trying to lock in a certain pricing.

**c. Arbitrage**

Arbitrage is a small difference in pricing between different markets, products or individual items (interest rates, exchange rates etc). Opportunities for arbitrage take place throughout the world markets, and derivatives are sometimes used to exploit these. Arbitrage trading using derivatives is for highly professional companies, and is mostly limited to financial institutions or robot trading. We will thus not focus on this area of derivative trading.



## 5. THE BASIC INSTRUMENTS: FORWARDS/FUTURES VERSUS OPTIONS

When states trade with non-renewable and finite resources it is essential that this trade benefits the country and all its citizens. This does not happen at the optimal level if the companies are using the wrong instruments when trading their produce, reducing the tax base to the host countries. Derivatives are an area where it is very easy to choose the wrong instrument, or worse, very easy to abuse for the purpose of willful tax evasion.

A forward contract is a non-standardized derivative contract sold over-the-counter that essentially locks in a pricing today that a company will receive in the future, but where there is a real risk that the counterparty may default.

A futures contract is a standardized derivative contract sold by an exchange that essentially locks in a pricing today that a company will receive in the future, with little risk that the counterparty may default.

Both a forward contract and a futures contract locks in a pricing today, and to the extent that the price of the underlying, for example an oil cargo, changes, so does the pricing of the forward/futures contract. Given that there is a 100% match in size and timing, the two transactions, the sale of the oil cargo and the purchase of the derivative contract, will essentially work opposite of each other. The result is that if there is a gain on the oil cargo, there will be an equivalent loss on the derivative contract, and if there is a loss on the oil cargo, there will be an equivalent gain on the derivative contract. All downside has been removed, but so has all the upside.

An option is a contract that gives the holder the right to buy or sell the underlying asset at a certain date for a certain price. A 'call option' is the right to buy and a 'put option' is the right to sell. An 'American' option can be exercised all the way up to the expiration date while a 'European' option can only be exercised at the expiration date. No surprise that 'American' options are most used as these gives flexibility over and above a 'European' option.

There are four types of participants in options markets: (i) sellers of calls, (ii) buyers of calls, (iii) sellers of puts and (iv) buyers of puts. Sellers are referred to as having a 'short position' while buyers are referred to as having a 'long position'. The terminology refers to that the sellers have to 'get' the physical to cover the 'short' position (usually by their own produce if they are an oil & gas or a mining company), while the buyer has to find a new buyer to resell his 'long' position to (usually someone who can utilize the produce for making other products).

The fundamental difference between the use of forward/futures and options is that while a forwards/futures contract are designed to neutralize risk by fixing the price, options by contract provide insurance as they offer a way to protect against adverse price movements while allowing the benefactor to benefit from favorable price movements. The other difference is that unlike forwards/futures, options involve the payment of an up-front fee, the option premium.

Options are by far the best strategy if a company is going to hedge or maximizing its profits in a host country in times with volatile prices – at a price - a fact that may account for how little options are being used in host countries compared to forwards/futures, as forwards/futures are much more able to transfer pre-tax profits across borders.

## 6. DESCRIPTION OF INDIVIDUAL DERIVATIVES AND THEIR USES

This section will for all practical purposes only briefly describe instruments that are being used in the derivative markets. Readers that are interested in more information on individual derivatives should preferably read up on a textbook. The descriptions and usages of various derivatives provided here are scaled down in order to serve as a background for the misuses of derivatives in chapter 7.

The reader is directed to chapter 5 for a general description and discussion of the basic derivatives 'forward contracts', 'futures contracts' and 'options'. Exchange-traded, standardized products are usually called 'plain vanilla' products and refer to the uncomplicated version of a particular type of security. Forwards, futures and options when they are not combined to form more complicated products are here regarded as 'plain vanilla' products. The products are so clearly defined, the risks are so well-known and the contracts are so standardized that more frequent users of derivative contracts have no problems buying, managing and accounting for these contracts on a standardized basis.

### a. Futures/forward contracts and options

The Bank for International Settlements (BIS) is producing statistics for the use of derivatives. Table 22A from their June 2011 report give a fair overview of the development in commodity contracts over the last 3 years.<sup>10</sup> As one can see the notional amount is starting to increase in June 2011 after a slump in June 2010 following unwinding of positions post-2008. The gross market values have not followed suit, though.

| Instrument/counterparty          | Notional amounts outstanding |              |              |              |              | Gross market values |            |            |            |            |
|----------------------------------|------------------------------|--------------|--------------|--------------|--------------|---------------------|------------|------------|------------|------------|
|                                  | Jun 2009                     | Dec 2009     | Jun 2010     | Dec 2010     | Jun 2011     | Jun 2009            | Dec 2009   | Jun 2010   | Dec 2010   | Jun 2011   |
| <b>Total commodity contracts</b> | <b>3,619</b>                 | <b>2,944</b> | <b>2,852</b> | <b>2,922</b> | <b>3,197</b> | <b>682</b>          | <b>545</b> | <b>458</b> | <b>526</b> | <b>471</b> |
| <b>Gold</b>                      | <b>425</b>                   | <b>423</b>   | <b>417</b>   | <b>397</b>   | <b>468</b>   | <b>43</b>           | <b>48</b>  | <b>45</b>  | <b>47</b>  | <b>50</b>  |
| Forwards and swaps               | 179                          | 201          | 224          | 230          | 283          | –                   | –          | –          | –          | –          |
| Options                          | 246                          | 222          | 193          | 167          | 185          | –                   | –          | –          | –          | –          |
| <b>Other previous metals</b>     | <b>93</b>                    | <b>107</b>   | <b>127</b>   | <b>123</b>   | <b>144</b>   | <b>24</b>           | <b>15</b>  | <b>29</b>  | <b>18</b>  | <b>19</b>  |
| Forwards and swaps               | 44                           | 76           | 81           | 90           | 86           | –                   | –          | –          | –          | –          |
| Options                          | 49                           | 31           | 46           | 32           | 58           | –                   | –          | –          | –          | –          |
| <b>Other commodities</b>         | <b>3,101</b>                 | <b>2,414</b> | <b>2,307</b> | <b>2,403</b> | <b>2,585</b> | <b>614</b>          | <b>482</b> | <b>384</b> | <b>461</b> | <b>402</b> |
| Forwards and swaps               | 1,671                        | 1,599        | 1,470        | 1,691        | 1,760        | –                   | –          | –          | –          | –          |
| Options                          | 1,430                        | 815          | 837          | 712          | 825          | –                   | –          | –          | –          | –          |

Source: Bank of International Settlements, November 2011

We can see from the table that forwards (the statistics cover the OTC market, not the exchange-based futures market) and swaps has approximately 2/3 of the derivatives market in commodities, with options being the remaining 1/3. Here one needs to observe that to the extent a derivative includes several instruments, the instrument is reported under 'Options' if one of the instruments is an option, while all other instruments are reported under forwards and swaps for the purpose of this statistic.

The main use of forwards (and futures) is to lock in an expected economic outcome. This is usually to ensure that a cost does not go higher or revenue does not go lower than

<sup>10</sup> Bank for International Settlements (BIS); 'OTC derivatives market activities in the first half of 2011', November 2011, obtainable at [www.bis.org](http://www.bis.org).

the price level one enters into the derivatives transaction with. The main features of such forward (and futures) contracts are that they create predictability by removing flexibility.

Use of options on the other hand is more like an insurance premium (where the cost is actually called the option premium) that creates predictability on the downside while keeping the flexibility on the upside (actually both sides). Given the economic attractiveness of keeping the flexibility on the upside, it may come as a surprise that as low as 1/3 of the derivative transactions are (various forms of) options. Flexibility means that there are also some unique opportunities using options.

#### **b. Swaps**

A swap is an agreement between two parties to exchange cash flows for a set period of time. At the time the contract is initiated, at least one of these series of cash flows is determined by a random or uncertain variable, such as an interest rate, foreign exchange rate, equity price or commodity price. One may view a swap as either a portfolio of forward contracts, or as a long position in one bond coupled with a short position in another bond. The two most common and most basic types of swaps are the interest rate swap and the currency swap.

Usually a swap continues till the agreed termination date. Should one of the swap parties need to exit the swap prior to the agreed-upon termination date, there are several strategies (similar to an investor selling an exchange-traded futures or option contract before expiration).

##### **Buy Out the Counterparty**

Just like an option or futures contract, a swap has a calculable market value, so one party may terminate the contract by paying the other this market value. However, this is not an automatic feature, so either it must be specified in the swaps contract in advance, or the party who wants out must secure the counterparty's consent.

##### **Enter an Offsetting Swap**

This alternative will negate the original swap. This can be done without the consent of the counterparty.

##### **Sell the Swap to Someone Else**

Because swaps have calculable value, one party may sell the contract to a third party. This requires the permission of the counterparty.

##### **Use a Swaption**

A swaption is an option on a swap. Purchasing a swaption would allow a party to set up, but not enter into, a potentially offsetting swap at the time they execute the original swap.

#### **c. Equity derivatives**

Equity derivatives take their value from stocks or stock indexes. There are several types of equity derivative including options, warrants, futures, forwards, convertible bonds, and swaps.

##### **Equity options**

An equity option is a contract that gives an investor the right to trade shares of stock at a particular price (strike price). The contract does not, however, obligate the investor to actually make a purchase or a sale.

##### **Equity warrants**

Warrants grant the holder the right, but not the obligation, to buy the underlying asset (stock) at a specific future date. Unlike options, warrants are issued by a company rather than an investor,

and are offered to holders of company bonds and preferred stock. A warrant allows an investor to purchase (call warrant) or sell shares (put warrant) of a company's stock at a certain price.

#### Equity futures

An equity future is a contract between two parties in which one party (the buyer) agrees to buy the underlying security at a future date and price. While similar to an option, purchasing a futures contract creates an obligation instead of a right; i.e. the buyer must purchase the stock when the futures contract reaches the end date, and the seller must also sell the stock at this date.

#### Equity forwards

An equity forward is similar to an equity future in that it creates an obligation between two parties to exchange a stock on a particular date and at a particular price, but it is not a contract that is traded on an exchange. An equity forward contract only results in stocks and money being exchanged at the settlement date.

#### Convertible bonds

A convertible bond allows the holder to convert the bond into stocks in the underlying company. The derivative still has the features of a bond, such as a coupon and a maturity date, but also contains the conversion rate and price in which the bond can be exchanged. Type of convertible bonds can be plain vanilla convertibles, exchangeable convertible bonds, mandatory exchangeable bonds, contingent bonds, hybrid bonds and reverse convertible bonds.

#### Equity swaps

An equity swap is an agreement between two parties in which the cash flows from two different assets are exchanged, one of the being from equity index, while the other will be another index or individual stock (or even to a fixed or floating interest rate).

#### **d. Credit derivatives**

There are three main categories of credit derivatives:

- Credit default swaps
- Credit options
- Total (rate of) return swap

The underlying is some form of credit or return.

#### Credit default swap

In a credit default swap (CDS), the protection buyer pays a periodic fee, most often expressed in basis points per annum, in return for a contingent payment by the protection seller following a credit event.

#### Credit option

Credit Options are put or call options on the price of either a floating rate note, bond, or loan or an asset swap package which consists of a credit-risky instrument with any payment characteristics and a corresponding derivative contract. The option, if carried out, exchanges the cash flows of one of these instruments for a floating rate cash flow stream.

#### Total return swap

A total rate of return swap is designed to transfer credit risk between parties, but different from a credit default swap in that it exchanges the total economic performance of a specified asset for another cash flow. The payments between the parties in a total return swap are based upon changes in the market valuation of a specific credit instrument irrespective of whether a credit event has occurred or not.

## 7. COMMON MISUSES OF DERIVATIVES

*'The inclusion of financial derivatives in numerous tax shelters suggests tax avoidance is an economically significant, yet previously unexplored, aspect of their use... I find that new users experience reductions in tax burden following the implementation of a derivatives program. These benefits increase with the magnitude of derivatives employed and do not depend on effective hedging of economic risks. Further analyses reveal firms' ex ante preferences for aggressive tax strategies have a positive relation with the underlying implementation decision. This evidence collectively suggests tax avoidance is both a determinant and outcome of derivative use. However, similar to the opacity of corporate tax shelters, I find no indication of either aspect in footnote disclosures explaining why and how firms use derivatives.'*

Michael P. Donohoe, 2011<sup>11</sup>

The intention of this paper is not to educate the reader on derivatives per se, nor to lay out all possible types of misuse or abuse of derivatives. The main intention is to outline typical forms of misuse or abuse of derivatives, and leave it to the individual host country to assess whether the policy proposal outlined at the end can be a way to do away with tax evasion using derivatives as soon as such misuse or abuse has been discovered or is strongly indicated.

In a true hedging pattern, the derivative buyer will disregard outside influences and concentrate on the transaction at hand, making sure that the hedging is entered into in such a way that the goals of the corporation is achieved, i.e. to secure the individual underlying transaction against negative price fluctuations. A true hedging pattern will mean that derivatives are generally bought more when a price curve is approaching a top or in a falling price trend than in rising price trends, thus achieving the goal that the hedging is specific to each underlying transaction, that the expectation when entering into the hedging is neutral or slightly positive and that each underlying transaction to be hedged are treated separately, i.e. a production program covered with a long 'American' option or individual sales covered by a 'European' option or forwards or futures that coincide with the timing of the underlying transaction.

### **a. Abuse of forward or futures contracts**

In a hedging pattern where there is a component of speculation, the derivative buyer will try to lock in as low a cost or as high a revenue as possible, limiting the removal of the upside potential as much as possible. A typical hedging pattern with a speculation component should thus be, in the case of locking in as high revenue as possible, similar to the illustration in figure 7.1.

The illustration is based on a commodity that experiences price fluctuations in the form of a business cycle (here oversimplified and exaggerated) and the underlying assumption is that it is a commodity where the producers have reasonable good overview of global supply, demand and stock.

In this pattern one typically see that the derivative contract is entered into almost immediately after a top has been reached in the price or, if prices have risen for some

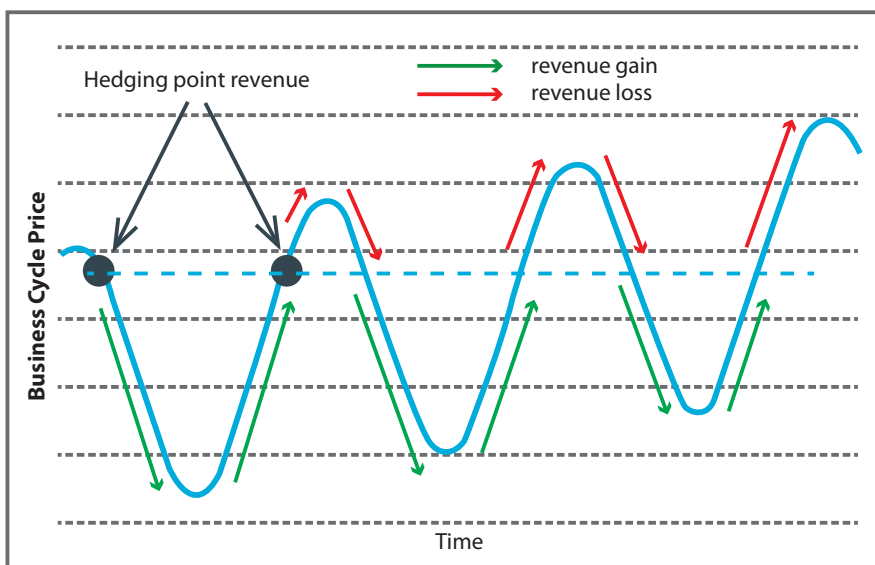
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<sup>11</sup> Michael P. Donohoe: 'Financial derivatives in corporate tax avoidance: an empirical study of new users', January 2011, obtainable at <http://wpcarey.asu.edu/accounting/upload/Michael-Donohoe.pdf>. Donohoe found tax delays in the early use of derivatives in new users, but failed to find the kind of permanently tax reducing use of derivatives to transfer pre-tax funds to lower-tax jurisdictions. The reason for this is most likely that a prerequisite for the research was that there were financial statements available (which there usually is not from companies registered in tax havens) and that the company in question should not be a subsidiary (ruling out all host country operations where transfer of funds using derivatives are common).

time, that the hedging is entered into approximately at level with the top of the previous business cycle or above. Which point the transaction is entered into does not really matter as both times will lead to more gains than losses in the near-term and a neutral picture in the medium- to long-term if the derivative transactions covered more than one business cycle. With a rising price trend over time, this trading behavior would give rise to neutral or positive expectations from the hedging (similar to true hedging, but there is now no 1:1 relationship between the hedge and the underlying).

In this trading pattern, one would expect that a company entered into opposite transactions when the company were losing upside (red arrows), as this would negate the negative effects of a forward or futures lock. Anyone can make mistakes, but companies who are doing mistakes will tend to try and eliminate the future effect of those mistakes, taking remedying actions in the derivative market to avoid losing economic upside going forward.

**Figure 7.1 Hedging pattern with a component of speculation – revenue maximizing**



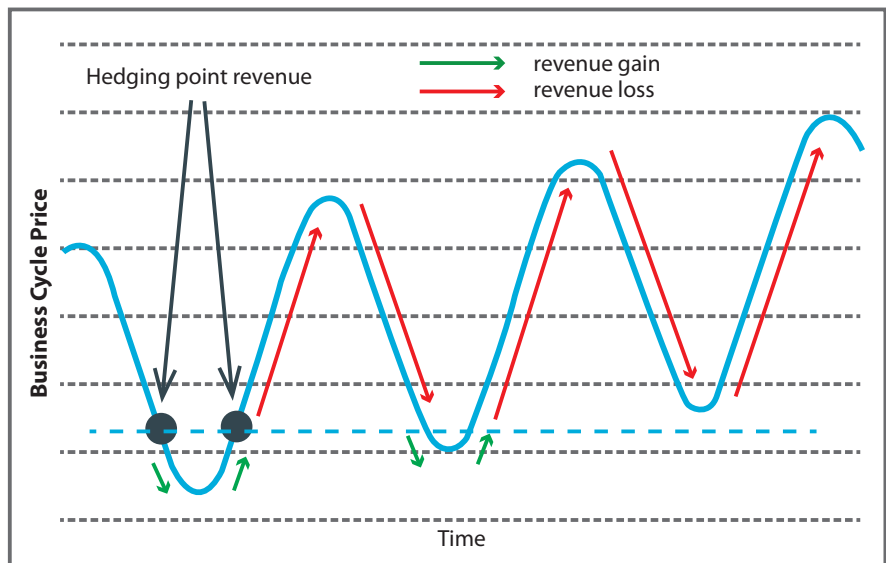
Source: Aarsnes, 2010

Contrast this hedging trading pattern then with the trading pattern shown in figure 7.2, which we have called the transfer pattern. This trading pattern is also commonly referred to as a 'hedging' pattern, but it has nothing to do with hedging, but everything to do with transferring pre-tax funds across a national border in a host country in order to avoid taxation of these funds.

The company buying the derivative will here try to establish the derivative contract at the lowest possible pricing. Usually these companies take advantage of the downward price trend, locking in the derivatives contract when prices have dropped significantly in comparison to the previous business cycle or in relation to expectations. The boldest companies (in view of their behavior towards the tax authorities in the host country), or those that misjudged the turn of the business cycle, will find that they enter into the derivatives contract at the beginning of the next price upturn.

This trading pattern is usually creating massive losses in the host country, as these derivative contracts will lock in the price at a fairly low level and will make the company in the host country lose money on the upside all the way up the next climbing price trend and all the way down again the next downward price trend (if the derivative/contract last that long) until one reaches the price point where the derivative contract were entered into. The company will then start to earn money on the contract, but to a much less degree than the losses that have been amassed.

**Figure 7.2 Transfer pattern – revenue minimizing (in host country)**



Source: Aarsnes, 2010

There are four characteristics of this trading that has the characteristics of being able to move massive amounts of pre-tax revenues across a national border to the benefit of the group:

- The price that the contract is entered into is usually so low that the price expectation is not neutral or slightly positive anymore when seen over time, but massively negative if one take into account the upside foregone. The low price is generally defended with the argument that the derivative was entered into in order to protect against even lower prices (disregarding that the derivative contract actually removes a huge upside).
- The management of the company in the host country does not take any remedying actions to try and enter into further derivatives contracts that negates the effects of the first derivative contract
- The derivatives/contracts are usually covering as long a time period as possible in order to lock in a low price as long as possible, claiming that the company could not have known the price development for such a long period of time, or that the long time period will mean that gains and losses will eventually even out over time
- Although the tax administration in the host country will never see it, an affiliated company will almost always have entered into EXACTLY the opposite transaction at the same time and with the same conditions in order that the money is not going to a financial institution, but that the profit generated by transferring the pre-tax funds across the national border is kept within the group.

Any tax administration that comes across derivatives with these characteristics should take the following actions:

- Try to have the original derivatives contract ruled nil and void for tax purposes on the grounds that this is harmful tax evasion.
- Work with the Ministry of Finance in the host country to have legislation passed that makes the companies that are trying such a trading pattern does not benefit from it by being able to roll the negative effects of derivative losses into revenue streams from oil & gas or mining activities.

The abuse above is most easily done using forward or futures contracts or with the type of mispriced long-term contracts as discussed in chapter 8 below. There is an endless variety how to carry out schemes for transferring pre-tax funds across a national border using derivatives, and thus out of the tax base of the company in the host country, and it is quite easy to carry out and with little risk that the tax authorities will be able to do anything about it given the huge discrepancy in the knowledge base of tax authorities relative to companies when it comes to the use and abuse of derivatives.

What a tax authority should ask itself is, if it is easy to enter into opposite derivative transactions in order to negate losses on already entered into transactions, how and why are the massive losses that can be seen in financial statements and audits in host countries created?

The really frightening thing is that the involved financial institutions (OTC traders or exchange-traders) do not actually even have to know of each other, and the company in the host country does not need to know of the opposite transaction at all. It is enough that the parent company, or an affiliated company that have received the responsibility to carry out derivatives trading, knows about the derivative trade entered into by or on behalf of the company in the host country. This company will then be able to utilize the same or any other OTC trader (or exchange-trader) to enter into the opposite transaction in order for the group to be almost 100% protected against the lock-in of the pricing in the originating derivative transaction. Thus, the parent company can ensure a safe transfer of pre-tax funds across the national border of the host country and into a tax haven or another lower tax jurisdiction (than the host country), while at the same time ensuring that the group as a whole are exposed towards fluctuating commodity prices (which is the best way to maximum profits over time). The extractive industry company has thus reduced the tax base of the host country while at the same time that the group as a whole receives maximum after-tax profits.

As there is (potentially) no other than the parent company that has full overview of both sides of the derivative transactions it is important that both sides of derivative transactions are being reported in the Country-by-Country reporting. This is actually the only way of knowing whether the company is using derivatives as hedging or whether there is an unlawful transfer of funds across borders. We call this an unlawful transfer of funds across borders as most countries have tax regulations against manipulation of revenues, although the regulation does not necessarily target derivatives to the extent needed to avoid this abuse of derivatives.

This type of abuse is actually discrediting derivatives that is being used for true hedging, and essentially means that everybody that is using derivatives to some extent are under suspicion for manipulating revenues to the detriment of the host country (true hedges does not do this).



**b. Abuse of options**

If it is so easy to abuse forward and futures contracts, how is it then with options? Due to the nature of options, many people believe that their only role is as an insurance against a negative effect. However, also options can be abused.

The following has been highlighted in a textbook on derivatives:

*'As a simple example of a possible tax planning strategy using options, suppose that Country A has a tax regime where the tax is low on interest and dividends and high on capital gains, while Country B has a tax regime where tax is high on interest and dividends and low on capital gains. It is advantageous for a company to receive the income from a security in Country A and the capital gain, if there is one, in Country B. The company would like to keep capital losses in Country A, where they can be used to offset capital gains on other items. All of this can be accomplished by arranging for a subsidiary company in Country A to have legal ownership of the security and for a subsidiary company in Country B to buy a call option on the security from the company in Country A, with the strike price of the option equal to the current value of the security. During the life of the option, income from the security is earned in Country A. If the security price rises sharply, the option will be exercised and the capital gain will be realized in Country B. If it falls sharply, the option will not be exercised and the capital loss will be realized in Country A.'*

This way of moving the capital gains tax base would be totally contradictory to what most tax systems try to achieve: a symmetrical taxation of capital gains and losses. It is obvious to most that for the tax system to achieve its goal, it must be able to capture taxes on capital gains in order to offer deductions for capital losses. Without this symmetry, there is little reason for a country to offer deductions for capital losses. A simple solution is the policy proposal offered in chapter 9 that unilaterally can remove tax avoidance planning while at the same time retaining the ability to offer tax deductions for derivative losses.

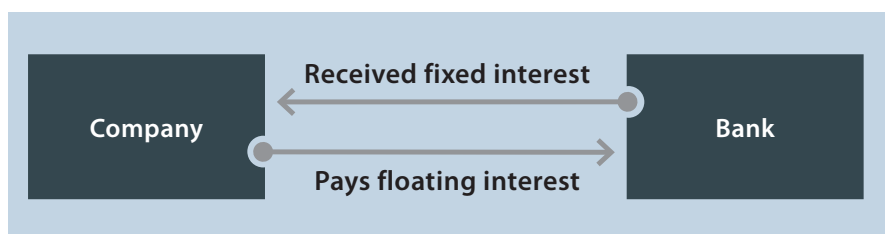
**c. Abuse of currency swaps**

Swaps can be used alone or in conjunction with other instruments. Below are two examples of using the most common swaps alone to create tax effects desired by tax payers but undesired by the host country. The examples are

- an interest rates swap that changes an unusable capital loss into an interest deduction allowable under the country's tax regulation
- a currency swap to avoid withholding tax

**Interest rate swap abuse**

Assume a company has a capital loss that is 'unusable' due to that it has no capital gains to utilize the loss towards. This company could enter into an interest rate swap with a bank.



The company receives a fixed interest and pays a floating interest. By selling the receipt leg of the transaction, the company is left with a lump sum 'gain' from the sale of the receipt leg that it can use towards the capital loss it had (negating the loss) while retaining the paying leg of the interest swap that will be deductible against future revenues. This interest swap will thus effectively have transformed an unusable capital loss into an income deduction in the years to come. The only prerequisite for this tax scheme to work is that the country in question would treat the lump sum 'gain' from the sale of the receipt leg back to the bank (or somebody else) is treated as a capital gain. This is the case for many countries, amongst them UK and most of the countries that have a tax system similar to the UK.

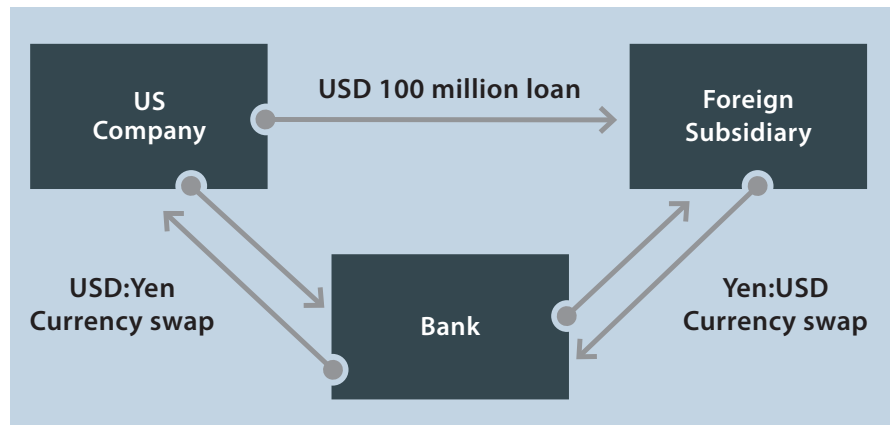
Currency swap abuse

Assume a US company (or another home country company) has a loan to a subsidiary. This is an extremely common situation.



If we assume that the interest on this loan is 5% and that the country of the foreign subsidiary has a 10% withholding tax on interest payments. This would result in a yearly withholding tax of USD 0,5 million for the length of the loan duration (assuming no down-payments).

It is possible to almost eliminate the withholding tax using a currency swap.



By entering into equal, but opposing, currency swaps between a USD denominated loan and a Yen denominated loan with a bank, the foreign subsidiary may reduce the interest cost to the interest rate on a Yen-based loan while the opposing swap allows the US mother company to eliminate any currency exposures from the Yen:USD swap done by the subsidiary. Assuming the loan in Yen has an interest rate of 0,5% (instead of 5% for the USD denominated loan), the 10% withholding tax in the country where the foreign subsidiary is residing would now be reduced to USD 0,05 million, a 90% reduction in this example.

There would be no other effects of this currency swap as the USD-interest in the subsidiary country would negate the USD-interest on the original loan (opposite effect), and there is no withholding tax on swap payments between the bank and the US mother company.

In addition to these two examples, one might find all kind of varieties like dividend swaps or swaps exchanging a dividend with an interest stream that has the potential of creating almost any kind of possibilities for long-term tax avoidance. It is necessary with a very sophisticated tax system if a country should be able to cater to all the varieties that have or can be created using derivatives. The policy proposal in chapter 9 does not need to use sophisticated tax mechanisms, as it is a self-regulating mechanism.

#### **d) Abuse of more complicated derivatives**

The intention by this paper is not to create a comprehensive library of possible abuses of derivatives, firstly because it is close to impossible, secondly because a tax jurisdiction's attention should be on the total use (or abuse) by derivatives, not only possible examples that are covered in a paper like this one. The reason for this is that it is close to impossible to create detailed regulation that would take care of all the different instruments and situations that could occur. The solution outlined in chapter 9 is therefore a general approach to dealing with derivatives abuse.

Below we will thus only refer to further reading on potential abuses of equity and credit derivatives, and one should note that they are not limited to tax abuse.

#### **Equity derivatives**

There are several references available when it comes to possible use (and abuse) of equity derivatives. The following two give a reasonable introduction to the subject:

- The Florida Bar Journal, April, 2002 Volume LXXVI, No. 4, obtainable at <http://www.floridabar.org/DIVCOM/JN/JNJournal01.nsf/Articles/36C2EF7DD65C7BDD85256B8700583E78>
- A presentation by the Holland & Knight LLP, obtainable at [http://www.ttn-taxation.net/pdfs/Speeches\\_Miami\\_2008/03JEFFRUBINGER.PDF](http://www.ttn-taxation.net/pdfs/Speeches_Miami_2008/03JEFFRUBINGER.PDF)

By now it has dawned on most readers that there is no single derivative that cannot in some way or other be abused just as much as it can be used. It is for this reason that a general approach is recommended in chapter 9 to deal with the abuse, while at the same time secure that derivatives can still be used for their legitimate usage.

#### **Credit derivatives**

The credit default swap, the CDS, is perhaps the most universally known derivative after it came into the news following the sub-prime crisis and the bringing down of AIG, who was at the wrong end of a massive number of CDS-contracts. CDS-contracts have come under massive criticism following the 2008 financial crisis. Thus, it is evident that tax issues are not the only problems following in the wake of massive use of derivatives. However, one of the problems with credit derivatives may actually be that they are under certain circumstances tax deductible. However, to the extent that countries are using the tax solution outlined in chapter 9, it is evident that also credit derivatives would fall into a separate tax base, and buyers would become more reflected in their use of these instruments.

Credit derivatives have already come under the scrutiny of governments, and it is to no further avail to go deeper into these instruments here. We hope that the point has come across from the above. We will now turn our attention to the not uncommon abuse of derivative and hedging terminology.

## 8. MISUSE OF DERIVATIVE TERMINOLOGY – A TRANSFER MISPRICING METHOD

Some extractive industry companies are entering into contracts between affiliated companies where they lock in the price for a (long) period of time giving the reason that they are 'securing' or 'protecting' the revenue against lower prices or profits against net losses, that they are 'hedging' the price or that they are using 'risk management' to even out revenues over time.

Sometimes extractive companies will argue that financial institutions are 'demanding' that they are 'hedging' their revenues. One should here note that a financial institution has a whole arsenal available to secure their position towards a company, and if a financial institution demanded that the company should hedge their revenue stream, it would have been natural for the institution to demand that the company used options as this would remove the downside for the financial institution while at the same time retaining the upside for the extractive company.

All these terms are derivatives terminology and give the impression that these companies are using acknowledged techniques from derivatives to secure the revenue streams to the company. However, upon investigation most of these contracts can be demonstrated to actually reduce the revenue stream to the operating company in the host country and transfer the margin between global prices and the revenue in the operating company to an affiliated company, often located in a tax haven or in jurisdiction with lower tax rates than the host country.

These agreements are slightly differing from traditional transfer mispricing where it is the general margin that companies are trying to reduce while these contracts are trying to take advantage of the price volatility and transfer more than the average volatility out of the host country to cater to the 'risk' that the buying affiliated company 'takes'. However, no 'risk' has been transferred from the group to a third party, the only thing that has happened is that the group has been able to split the revenue from the operations in the host country to companies within the group that are residing in different tax jurisdictions (not seldom in tax havens), thus reducing the tax bill to the host country.

Companies using these internal cross-border agreements are usually claiming that they have entered into a long-term agreement many years ago when prices were much lower 'in order to secure minimum revenues in connection with the initial investment'. There are examples from audits where companies using this type of agreements over time have been able to drive a wedge the size of over 10% of gross revenue between the production valued at LME prices and the value of the production using the long-term agreed price.

These agreements are just a sham as their only function is to transfer pre-tax revenue across a national border and into a jurisdiction with a lower tax rate (or no tax rate) than the host country. No company would ever enter into such an agreement with a third party unless the two parties used a derivative-type of agreement to 'swap' revenue streams. All such agreements should be viewed by the tax authorities for what they really are: a sham.

## 9. POLICY PROPOSAL TO STOP MISUSE WHILE PROTECTING LEGITIMATE USE OF DERIVATIVES

A tax system would become very complicated should one try to use detailed legislation to solve all kinds of derivative usages. There is however two general approaches that takes care of derivative usages at a general level. These are

- The substitution method
- The separation method

The substitution method generally needs more administration by the government than the separation method.

### The substitution method

The revenue from extractive industry companies is based on volume times price. The substitution method will substitute the pricing in the real transaction with a pricing set by the authorities. The norm price system in Norway is a substitution system. The pricing is researched, evaluated and published by an institutional body called the Norm Price Board. This demands an active participation by government, though, as prices needs to be available for use by the extractive industry companies on a timely basis. The Norwegian norm price system has resulted in a complicated adjustment system where companies that are making mistakes when substituting and adjusting revenues across years are liable to penalty taxes. This system was also not trusted by the companies for many years until the Norm Price Board had proven itself. A system of substitution prices can result in a lot of tension between authorities and companies, and this, in addition to the administrative efforts needed, are working against this type of regime. The Norwegian norm price system and the tax regulation that it is part of has effectively prohibited all use of derivatives in the Norwegian oil & gas industry, even true hedging.

### The separation method

Many countries have separate tax bases for different types of income. This lends itself to the other method which constitutes the policy proposal in this paper. In the separation method, one would single out derivatives as a separate tax base. Revenues and costs from extractive industry activities would thus be taxed by itself, while companies would have to separate all revenues and costs arising from derivative contracts or long-term agreements that used other than  $M+x$  (sales month + x number of months until price settlement, dependent on type of production) pricing mechanisms in a tax base separate from the extractive industry activity. The consequence would be that all agreements that used derivatives or derivative methodology would have to be presented separately in the tax returns of the company and would be taxed separately, including its own loss carry forward rules.

As we have noted before, the expectation in a true hedge, i.e. the part of derivatives trading that is not speculation, is neutral or slightly positive which means that the company entering into the transaction does not expect to gain or lose from the

transaction at the point of entering or they are expecting to gain slightly in the longer run. True hedging would also normally involve using options, which would guarantee gains in the long run. A separate tax base for revenues and costs arising from the use of derivatives would thus not interfere with true hedging. Any losses from the hedging would be taken against realized gains from other hedges or be carried forward until such time that the hedging activities resulted in gains.

By having revenues and costs from derivative activities in a separate tax base would however immediately limit the use of derivatives for (1) transferring pre-tax funds across a national border or (2) tax planning. The reason for this is that in (1) the company would build up loss carry forwards that would never be utilized (a very poor strategy) and in (2) the original revenues and costs would be taxed together with the extractive industry activity as if the derivatives had never been entered into while the opposite side of the trade would be treated in the separate tax base attracting no further taxation.

#### Conclusion

It is possible for countries unilaterally to single out use of financial instruments as a separate tax base from the extractive income tax base. This means that gains are taxed based with the general tax rate in the country and losses can be used against current gains or carried forward and taken against future gains. This way companies that are neutral or which are expecting gains in the long run will not be harmed and can continue using derivatives, but the companies that are amassing losses in the country would find that they have no tax shield for the abuse of derivatives anymore.

The policy changes suggested above to avoid derivatives abuse works very well within the Country-by-Country reporting suggested by PWYP Norway.

## 10. SUGGESTED POSITION OF GOVERNMENTS

Market failure is a concept within economic theory wherein the allocation of goods and services by a free market is not efficient within its regulatory framework.

Market failure is often associated with

- information asymmetries
- non-competitive markets
- principal-agent problems
- externalities
- companies use information to reduce taxes
- the market is not liquid enough
- the agent pursues his own interest and not the principal's
- prices do not reflect the full cost or benefits of producing (or consuming) a product or a service

Abuse of derivatives constitutes a market failure in the sense that individual companies' pursuit of pure self-interest leads to results that are not efficient, i.e. they can be improved upon from the societal point-of-view. One such improvement is to remove the ability of using derivatives to transfer pre-tax funds out of a host country's tax base, and thus make the company honor the social contract between the country and the company whereby the country has provided the resource and the company is supposed to give part of its profits back to the country in the form of taxes in order for the country to provide for infrastructure and services to the company and its employees.

The Norwegian government has implemented a norm price system to ensure that government revenues are not affected by the use of derivative instruments in the extractive oil & gas industry in Norway. This is however an administratively burdensome system, and the alternative separation method is less dependent upon the interaction between government institutions and extractive industry companies. The separation method is also the method that most closely resembles how many countries have set up their tax system and their legislative system. This means that the separation method can be integrated in many countries tax system without creating a whole new type of legislation which a substitution method would need.

Publish What You Pay Norway suggests the separation method as the generally promoted method for governments to address derivatives abuse in the affected countries. The method can be implemented unilaterally, is in line with how most countries have set up their tax systems as well as legislative systems in general and fixes the market failure of derivatives abuse while at the same time does not discourage the use of true hedging.

Publish What You Pay Norway strongly encourages Norway and EU to work towards having countries unilaterally enacting the separation method, singling out derivatives in a separate tax base, as an instrument to avoid countries being abused by derivative usages that is based on speculation, not hedging.

## APPENDIX: TERMINOLOGY IN PROFESSIONAL AND LAYMAN TERMS

This list of definitions and general descriptions is meant only to capture the most basic definitions in order for a reader to be adequately informed about the content of this paper. See specialized literature for derivatives terminology beyond these terms.

| Term                      | Definition   | Description  |
|---------------------------|--|--|
| <b>Commodity forward</b>  | Forward contract to exchange a commodity or commodity index at a set price at a future date.   |  |
| <b>Commodity swap</b>     | Contract with one or both payments linked to the performance of a commodity price or a commodity index.  | It involves the exchange of the return on one commodity or commodity index for another and the exchange of a commodity or commodity index for a floating or fixed interest rate.   |
| <b>Commodity option</b>   | Option contract that gives the right to deliver or receive a specific commodity or commodity index at an agreed price at a set date in the future. |  |
| <b>Derivative</b>         | A security whose price is dependent upon or derived from one or more underlying assets.  | Something that is based on another source. A financial derivative is based on that there exist a pricing of 'physical' assets, for example commodities like oil, gold, copper etc, or some type of index, for example index pricing of currency exchanges. The pricing of the derivative is then based on (1) the needs of the counterparties and (2) expectations as to the developments in the pricing of the product that the derivative is based on. |
| <b>Gross market value</b> | The aggregate market value when one sum up the positive market value one side of each derivatives contract has.                                    | The gross market value is calculated by looking only at the one-sided (positive) deviation between the spot pricing in the market and the pricing in the derivative contracts. The other side of the contract would reflect the negative deviation, and if looked at together would negate each other.   |



| Term                  | Definition  | Description   |
|-----------------------|---|---|
| <b>Hedging</b>        | The use of derivatives to reduce or protect against risk.   | <p>A hedge is to make an investment to reduce the risk of (adverse) price movements in a revenue-generating asset or in a cost item.</p> <p>Investors use a hedging strategy when they are unsure of what the market will do.</p> <p>A perfect hedge reduces your risk to nothing (except for the cost of the hedge).</p> <p>A natural hedge is where opposite positions negates any (negative) price fluctuations without having to buy a position in a security.</p> <p>A natural, perfect hedge could for example be where a company has a long-term receivable in a currency and a long-term debt in the same currency of equal size and both are due at the same time. Any movements in the exchange rate that negatively affects the receivable will positively influence the debt and vice versa. The company is 100% protected against negative influences by changes in the exchange rate.</p> |
| <b>Notional value</b> | Nominal amount of an underlying of a derivatives contract   | The notional principal is the principal used to calculate payments in a derivative, for example in an interest rate swap. The total notional value is the value if one sum up all the nominal amounts of all the derivative contracts in total.   |
| <b>Security</b>       | An instrument representing ownership (stocks), a debt agreement (bonds) or the rights to ownership (derivatives). | <p>A security is a contract that can be assigned a value and change hands through a trade.</p> <p>Examples of a security include a note, stocks, preferred shares, bonds, debenture, derivatives like options, futures and swaps, a right, a warrant, or any other financial asset.</p>   |







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Publish What You Pay Norway (PWYP Norway) is the Norwegian chapter of the international PWYP network. The network organise and mobilise over 650 organisations from over 50 countries. We advocate for standardised country by country reporting and increased transparency and financial integrity in the extractive industries. The secrecy surrounding trade with natural resources harms those the resources are managed on behalf of. 2/3 of the world's poorest people live in resource rich countries. It is urgent that citizens, government institutions, politicians, researchers, investors and other users of financial information get access to standardised valuable information so that societies interest can be upheld and governments and companies can be held to account. It is urgent that the economic potential generated from developing countries' trade with non-renewable and finite resources is translated into a sustainable development and common good. For more information, please see [www.pwyp.no](http://www.pwyp.no)

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