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COMMISSION STAFF WORKING DOCUMENT

IMPACT ASSESSMENT REPORT

Accompanying the document

Proposal for a COUNCIL DIRECTIVE

on laying down rules on a debt-equity bias reduction and on limiting the deductibility of interest for corporate income tax purposes

{COM(2022) 216 final} - {SEC(2022) 204 final} - {SWD(2022) 144 final} - {SWD(2022) 146 final}

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Glossary

Term or acronym	*Meaning or definition*
CIT	Corporate income tax
ACC	Allowance for corporate capital
ACE	Allowance for corporate equity
ANCE	Allowance for new corporate equity
ATAD	Anti tax avoidance directive
CMU	Capital market union
COVID	Corona virus disease
DEBRA	Debt equity bias reduction allowance
EBITD	Earnings Before Interest, Taxes, Depreciation,
EBITDA	Earnings Before Interest, Taxes and Depreciation and Amortization
EESC	European Economic and Social Committee
EIB	European Investment Bank
EIOPA	European Insurance and Occupational Pensions Authority
FC	Financial corporation
GAAR	General anti avoidance rule
GDP	Gross domestic product
ILR	Interest limitation rules
IMF	International Monetary Fund
MNE	Multinational Enterprise
NDI	Non-deductibility of interest
NFC	Non-financial corporations
NID	Notional interest deduction
NIR	Notional interest rate
OPC	Open public consultation
OECD	Organisation for Economic Co-operation and Development
RFR	Risk free rate
SAAR	Special anti-avoidance rule
SME	Small and medium sized enterprise

1. INTRODUCTION: POLITICAL AND LEGAL CONTEXT

The initiative analysed in this impact assessment is embedded in a comprehensive EU tax agenda and results directly from the *Communication on Business Taxation for the 21st Century*[1]. Therein, the Commission set out both a long-term vision to provide a fair and sustainable business environment and an EU tax system, as well as a tax agenda with targeted measures intended to promote productive investment and entrepreneurship, and ensure effective taxation.

Amid those targeted measures, the Commission announced a proposal for addressing the debt-equity bias in corporate taxation – the so-called Debt Equity Bias Reduction Allowance (DEBRA). The initiative is coherent with the other actions set out in the Communication, and, in particular, with the forthcoming "Business in Europe: Framework for Income Taxation" (or BEFIT), which will provide a single corporate tax rulebook for the EU, providing for fairer allocation of taxing rights between Member States, taking into account reforms in the international corporate tax framework. While the BEFIT proposal is still in an early stage of development, the two initiatives contribute to the same vision of a fair and sustainable business environment in the EU. As set out in the Communication, targeted action on specific issues, including on the debt-equity bias is envisaged in the shorter term in order to address current problems in the EU tax system.

The initiative is part of and supports the EU's wider policy agenda; and most notably the European Green Deal[2], the Commission's digital agenda, the New Industrial Strategy for Europe[3] and the furthering of the Capital Markets Union[4]. The initiative would, for example, directly contribute to the objective of the EU's Capital Markets Union Action Plan to help companies avoid over reliance on debt and improve their equity position, at a time when the corporate sector enters the post-COVID recovery period with higher deficits and debt levels, and a greater need for equity investment. More specifically, an initiative at EU level to address the debt-equity bias would complement Action 4 of the Capital Markets Union Action Plan[5], which aims to incentivise institutional investors to make more long-term investments and thus support re-equitisation in the corporate sector, with a view to fostering the sustainable transition. The Communication explicitly calls for the debt bias in taxation to be addressed in order to remove undue fiscal incentives for debt financing, while also broadly calling for measures that support more stable and long-term financing to companies and infrastructure projects, in particular those contributing to the objective of smart, sustainable and inclusive growth.

Finally, the initiative replies to the European Parliament's expectation that the Commission would put forth a proposal for a debt-equity bias reduction allowance, in which the Parliament urged the Commission to perform a thorough impact assessment

[1] COM(2021) 251 final
[2] COM(2019) 640 final
[3] COM(2020) 102 final
[4] COM(2020) 590 final
[5] Action 4 - Encouraging more long-term and equity financing from institutional investors | European Commission (europa.eu)

and incorporate effective anti-avoidance provisions to avoid any allowance on equity being used as a new tool for base erosion[6]. In the current context of climate change, environmental degradation, globalisation and digitalisation, the EU needs a robust, efficient and fair tax framework that provides direct support to the recovery from the pandemic and the green and digital transitions. But, one that also simultaneously meets fiscal sustainability requirements against a background in which the government debt-to-GDP ratio in the EU has increased from 77.2 % at the end of 2019 to 90.1 % at the end of the third quarter of 2021[7] and deficits remain high, with an overall EU government deficit at 3.7%.[8] The tax framework must, therefore, work to support and create an environment conducive to fair, sustainable growth and investment, while taking into account fiscal sustainability considerations.

Taxation has an important role to play in supporting businesses to invest and grow. The ecological and digital transitions arising from the EU decision to move towards a climate neutral and digital economy will require new technologies and innovation that imply large amounts of investment. In such a context, addressing the debt-equity bias would contribute to the re-equitisation of businesses, which would contribute to more risky investments in vital break-through technologies. Equity financing, for example, can be a viable solution for projects with high risk-return profile that would be too risky for the banking sector to finance.

The ways in which current tax systems across the EU treat interest costs creates a persistent pro-debt bias. National tax laws across all Member States accept the deductibility of interest payments on debt for tax purposes, thereby reducing the tax base for the purpose of corporate income taxation. At the same time, costs related to equity financing (dividends paid) are non-tax deductible in most Member States. This asymmetric tax treatment of the deductibility of costs comes from the fact that the cost of debt is fixed, has to be paid whatever the profit or loss of the year, and is part of the firm's current expenses thereby reducing its revenues. Dividends on equity are variable, depending on the firms' profits, and are not mandatory. This differentiation induces a bias in investment decisions towards debt financing since a business that finances a new investment with debt will reduce its tax base compared to a situation in which the same company financed the very same investment with an equity increase. The higher the rate of corporate income tax in a given country, the stronger the tax bias towards debt for financing new investments. This tax-induced debt bias is a long-standing issue, one which has even been highlighted in the European Semester in relation to several EU Member States whose statutory corporate income tax rate is higher than the EU average.

Of course, there are multiple factors that impact or influence financing decisions. Debt could be chosen to increase the return on equity, because access to equity financing is

[6] Report on the impact of national tax reforms on the EU economy, (2021/2074(INI)) https://www.europarl.europa.eu/doceo/document/A-9-2021-0348_EN.html

[7] Latest available data from ESTAT, 21 January 2022: https://ec.europa.eu/eurostat/documents/2995521/14176362/2-21012022-AP-EN.pdf/4785530c-a1dc-5d07-1e94-acb29d9986a7

[8] Latest available data from ESTAT, 21 January 2022: https://ec.europa.eu/eurostat/documents/2995521/14176365/2-21012022-BP-EN.pdf/76140a97-e846-2eea-7bce-97c0a3260189

limited, because debt financing is cheaper than equity financing (especially when interest rates are low), to diversify risk, to reduce tax liabilities, and to avoid the dilution of control/voting rights of existing equity holders (owners). The argument about dilution of control/voting rights when new equity is taken up is especially important in the context of family-held companies and could explain, to some extent, national differences.

The Commission's objective with DEBRA is to address the specific issue of using debt because of the tax benefit it gives; this is where legislative action at the EU level can have an impact and where it can act in complementarity to other initiatives intended to support diversification of funding, longer-term funding options, and incentivise equity.

Since the tax induced debt-equity bias incentivises financing investments with debt, it can contribute to an excessive accumulation of debt for non-financial corporations. Excessive debt levels make businesses vulnerable to unforeseen changes in the business environment and increase their risk of insolvency. Necessary business restructuring following insolvency procedures often comes with considerable social costs in the form of layoffs. Furthermore, a large number of related non-performing loans can negatively affect financial stability. The total indebtedness of non-financial corporations in the EU amounted to almost EUR 14.9 trillion in 2020 or 111% of GDP[9]. Against such background, it is worth stressing that businesses with a solid capital structure may be less vulnerable to shocks, and more prone to make investments. Therefore, reducing the over-reliance on debt-financing, and thus supporting a possible rebalancing of companies' capital structure, can on a macroeconomic level positively affect competitiveness and growth.

Six EU Member States (Belgium, Cyprus, Italy, Malta, Poland, and Portugal)[10] and other neighbouring jurisdictions (like Liechtenstein or Switzerland) already have legislative measures in place to tackle the tax induced debt-equity bias, by providing some kind of a tax allowance on equity. These domestic measures are heterogeneous and differ in terms of their policy design. They have been introduced for different reasons weighing the pros and cons of different design choices from a domestic point of view. Motivations to introduce a domestic measure might have been to attract investment, or to address specific needs given the capital structures of companies or certain challenges faced. Those Member States that did not introduce such measures made other political choices: for instance, some Member States apply a very low statutory corporate income tax (CIT) rate, another way to mitigate the debt-equity bias. The Commission previously included an Allowance for Growth and Investment (AGI), as part of its 2016 proposals for a Common Consolidated Corporate Tax Base[11] (CCCTB). The CCCTB, in which the AGI

[9] Own calculations based on Eurostat's financial national accounts (online data code: NASA_10_F_BS). Debt is the sum of debt securities, loans and financial derivatives and employee stock options. Non-consolidated data. Only non-financial corporations are considered.

[10] An overview of existing measures of interest allowance for equity in EU Member States is given in Annex 7. Two neighbouring countries, Switzerland and Liechtenstein also have systems of notional interest deduction for equity in place.

[11] COM(2016) 685 final

was one part of a broader reform, did not reach agreement in Council and will be replaced by the forthcoming BEFIT proposal.

As for the international context, it should be noted that in the four main EU trading partners (i.e. US, Japan, China, UK), interest payments are a deductible expense while dividends are not. There is thus a debt-equity bias present in these economies as well. They all have interest limitation rules. Only a few have or are considering an allowance on equity. The UK is working on a UK Secondary Capital Raising Review; they plan to publish a report soon. However, the possibility and potential benefits of introducing such measure have been long discussed, including by the IMF, OECD, ECB and other private and public stakeholders. It is also worth noting that it is generally argued – by other international organisations, in EU research, and academia – that equity markets are better developed and that equity supply is generally higher in the US, which may be the reason why an equity allowance is not currently under consideration in the EU's closest trading partner.

Analysis and tax related casework demonstrates that, in the past, tax allowances for equity have been abused for the purpose of facilitating tax avoidance. The important lessons learned, should be used to inform further legislation. Past experiences clearly illustrate the need for a strong anti-tax abuse framework to accompany a tax allowance for equity. Robust anti-tax abuse measures will ensure that the initiative is not undermined by tax avoidance practices and will contribute to a stronger and fairer European market economy. It is against this background that the Commission's *Communication on Business Taxation in the 21st Century* already established a commitment that any initiative to address the debt-equity bias would be coupled with robust anti-abuse measures, to ensure that the rules are not used for unintended purposes. The anti-abuse measures will benefit from the thorough review of all six NID regimes undertaken by the Code of Conduct Group for Business Taxation, which led to guidance[12] being issued on 17 October 2019.

An EU approach to address the debt-equity bias would allow to apply the same measures to all Member States in a coordinated manner and ensure that equity is treated in a similar way across the single market, removing possible tax related distortions. A majority of respondents to the public consultation[13] are of the view that the debt-equity bias should not be addressed at national level, but at an EU level and that doing so would improve the business environment.

2. PROBLEM DEFINITION

This section defines and analyses the problems and their drivers and assesses the evolution of these problems in the absence of EU policy intervention. The 'Problem tree' in Figure 1 visually presents the problems, their drivers, and their consequences.

[12] WK 11093/2019 REV 1

[13] The public consultation is discussed in detail in Annex 2.

2.1. What are the problems?

Tax systems in the EU allow for the deduction of interest payments on debt when calculating the tax base for corporate income tax purposes[14]; while costs related to equity financing, such as dividends, are mostly non-tax deductible. This asymmetry favours using debt over equity for financing investments[15].

The debt-bias can create several problems. As discussed in detail below, the preferential tax treatment of debt can induce businesses to finance their investments with debt. Corporate debt levels are consequently higher than they would be without the bias. This increases the risk of excessive indebtedness in the corporate sector, which makes businesses vulnerable to crisis and increases the risk of insolvency. Excessive indebtedness increases leverage of the financial sector with the potential to lead to financial instability.

There are multiple reasons beyond the tax induced debt-equity bias why companies might prefer debt to equity financing. Debt could be chosen to increase the return on equity, because access to equity financing is limited, because debt financing is cheaper than equity financing (especially when interest rates are low), to diversify risk, to reduce tax liabilities, and to avoid the dilution of control/voting rights of existing equity holders (owners). These reasons for the choice of debt have been evaluated in the questionnaire of the open public consultation for DEBRA and stakeholders acknowledged the relevance of all these elements. NGOs and academics respondents think that debt is used mainly by companies to decrease their tax liability and avoid dilution of shareholders, whereas business associations and companies put as main reasons the necessity to find financing means and the opportunity of low interest rates available.

In addition to contributing to financial instability, the debt bias also reinforces the disadvantage for young and innovative businesses. These businesses are often deemed risky as investments by commercial banks and other traditional credit providers. In order to thrive, these businesses are therefore often dependent on equity financing, which is scarce in the European markets, making it very hard for them to obtain the funds they need. Reducing the bias would have a positive effect on the availability of equity and would thus promote higher levels of equity investment in the EU market. Investors will be incentivised to invest in the EU through a decrease of the cost of capital, at a time when the digital and climate transition require more investments.

The current situation, where only a minority of Member States addresses the debt bias, creates opportunities for aggressive tax planning and has the potential to distort investment decisions in the single market. Moreover, discrepancies in how an allowance for equity is implemented across the subset of Member States where such a measure

[14] As previously noted, this is the case for most but not necessarily all Member States as two EU Member States – Estonia and Latvia – do not allow for a (comparable) deduction of interest on debt given their differentiated tax systems.

[15] On the debt bias, see e.g. Fatica et al. (2013), Auerbach et al. (2010), Griffith et al. (2010), Langendijk et al. (2014) and Bräutigam et al. (2018).

exists, can hamper the efficient functioning of the Single Market and distort firms' decisions.

These issues have been raised by several stakeholders in the context of DEBRA's public consultation. Different business associations agree that reducing the debt-equity bias to encourage equity financing would have an overall positive effect on the solvency and financial stability of businesses, especially in times of economic slowdown or crisis. Moreover, stakeholders from business and academic backgrounds acknowledge the need for measures to tackle the debt-equity bias generated by the different tax treatment of these two types of financing. Businesses were supportive of measures to mitigate the debt-equity bias, defending the view that the bias incentivises companies to opt for debt instead of equity, and that high-levels of debt increase risks of bankruptcy, frequently at creditors' expense.

Higher levels of indebtedness and their negative repercussions

The debt-equity bias is a long-standing issue, and has been the subject of substantial academic and policy work. There is extensive academic literature establishing the influence that national tax systems have on corporate capital structure (e.g. Huizinga et al. 2008). The literature is condensed in two meta-studies. De Mooij (2011) and Feld and others (2013) which find a typical impact coefficient of the corporate income tax (CIT) rate on the debt-asset ratio of about 0.27[16]. This means that for a CIT rate of 26 percent (the weighted average rate in the EU), the debt-equity bias would be responsible for a 7 percentage-point higher debt-to-equity ratio in an average corporation. The results also indicate that the response increases over time (i.e., the relationship between tax induced debt-bias and capital structure becomes stronger) and that the relationship may not be linear. The first system to address the tax debt bias was originally proposed in 1991 by the Capital Taxes Committee of the Institute for Fiscal Studies[17].

Under the current tax rules of most Member States, a company that finances a new investment with debt will reduce its tax base and therefore maximise its after-tax profit, compared to the situation where the company finances the same investment with an equity increase. Businesses thus tend to favour investments financed by debt. This leads to higher debt-equity ratios compared to a situation in which debt and equity have the same tax treatment. The debt-bias increases with the rate of corporate income taxation in a given country, since a given reduction of the tax base becomes more attractive with higher tax rates. The tax induced debt-bias also increases with the interest rate, since a given amount of debt results in higher deductible interest payments, further reducing the tax base. Of course higher interest rates make debt more costly compared to equity, so that this price effect counteracts the effect on the tax-induced debt-equity bias. There is no available evidence, which of the two effects would be stronger but since the price

[16] De Mooij (2011) finds that a one percentage point higher tax rate increases the debt-asset ratio by between 0.17 and 0.28. Feld et al. (2013) conclude a marginal tax effect on the debt ratio of 0.27.
[17] ACE system proposal IFS, 1991; Devereux and Freeman, 1991.

effect operates directly while the tax-induced debt-equity bias operates mitigated through the tax rate, it seems likely that the price effect might dominate.

High debt-equity ratios can have negative repercussions on both the company and macroeconomic levels. At the company level, higher debt-equity ratios can increase the vulnerability to unforeseen changes in the business environment and the risk of insolvency. Contrary to dividends, debt must be served regardless of the financial situation of a company and the business environment. In this context, Giroud and Mueller (2017) find a more pronounced decline in employment during the global financial crisis in businesses with higher debt levels as compared to those with lower debt-leverage[18].

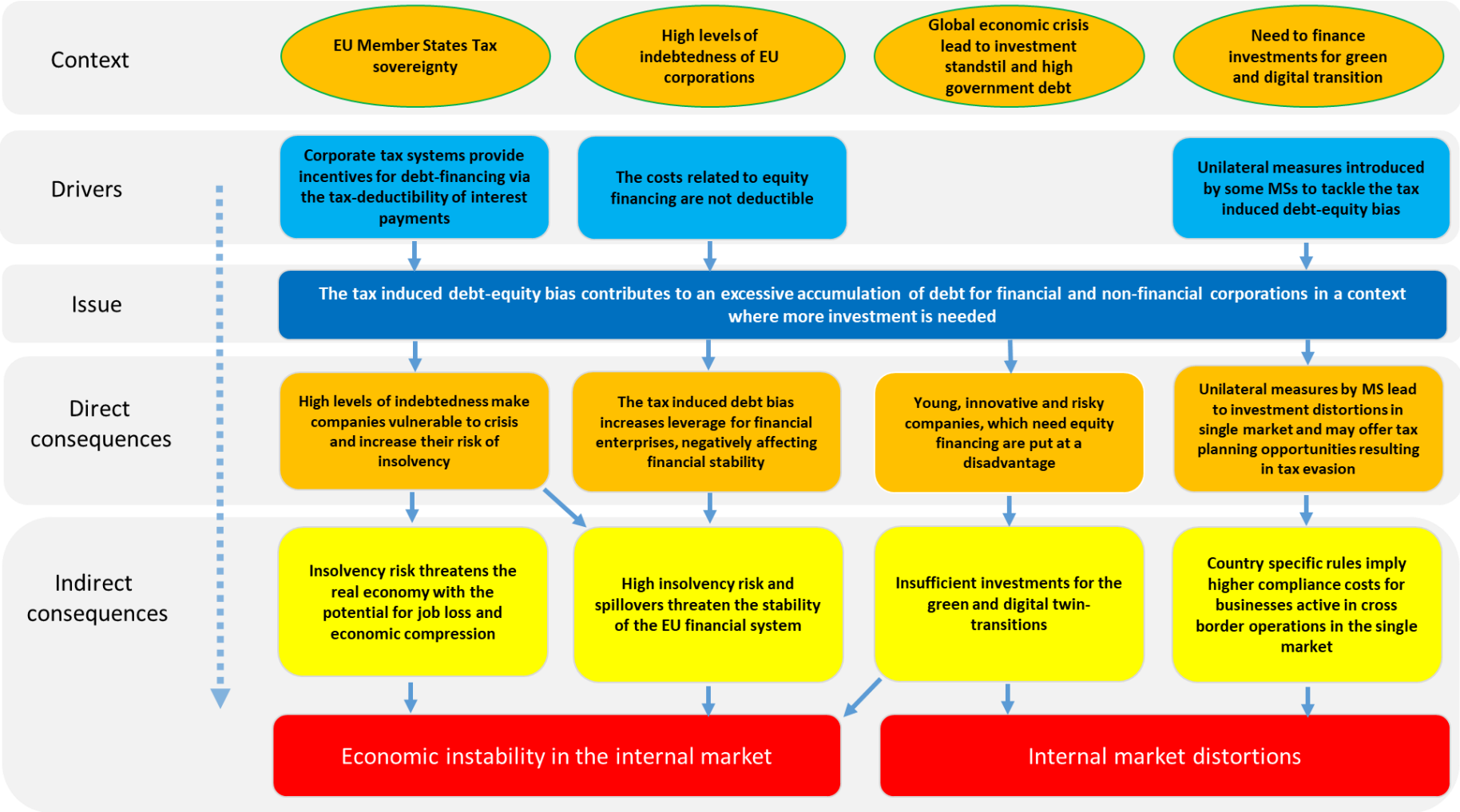
All respondents to the public consultation acknowledge indebtedness of companies in the EU, including SMEs, is too high and that it makes them more vulnerable to insolvency. All respondents also find that an EU initiative to address the debt-equity bias would be a useful tool to support the recovery of companies from the COVID-19 crisis and incentivise investment through equity in the transition to a greener digitalised economy without creating distortions in the single market. Companies, NGOs and academics strongly think firms should be encouraged to use more equity and less debt.

At the macroeconomic level, higher debt-equity ratios can constitute systemic credit externalities[19] (Bianchi 2011). Sutherland and Hoeller (2012) find that higher leverage ratios in the non-financial corporate sector are associated with a significantly higher probability of recession. Jordà and others (2013) find that the build-up of corporate debt during expansion periods increase the probability that subsequent recessions are deeper and longer lasting. The link between higher corporate debt levels and economic downturns is also shown by Bernanke et al. (1988) and IMF (2016).

Through input-output linkages, the default of one company can spill over to others and amplify aggregate fluctuations in the economy (Acemoglu et al. 2012). Furthermore, a large number of non-performing loans of non-financial corporations (NFCs) can have an indirect negative effect on financial stability and increase the volatility of the business cycle (Sutherland & Hoeller 2012). Higher levels of corporate indebtedness thus increase the risk of financial crises and also contribute to more lengthy recovery processes. An example is the recovery from the 2008-2009 financial crisis (FSC Subgroup on Non-Performing Loans 2017)[20]. The debt-bias thus creates allocative distortions, such as higher agency costs or bankruptcy costs that result in welfare losses (Gordon 2010; Kalemli-Ozcan et al. 2014).

[18] Debt leverage is interchangeable used to refer to the share of debt of total capital or the fraction of debt to equity.
[19] The externality arises because agents in times of crisis and credit constraint fail to internalize the debt-deflation effects of additional borrowing.
[20] This relationship is explained in the Report of the FSC Subgroup on Non-Performing Loans (2017), https://data.consilium.europa.eu/doc/document/ST-9854-2017-INIT/en/pdf.

Figure 1: Problem Tree



Total indebtedness of non-financial corporations in the EU amounted to almost EUR 14.9 Trillion in 2020 or 111% of GDP, compared to EUR 11 Trillion or 100.4 % of GDP in 2010[21].

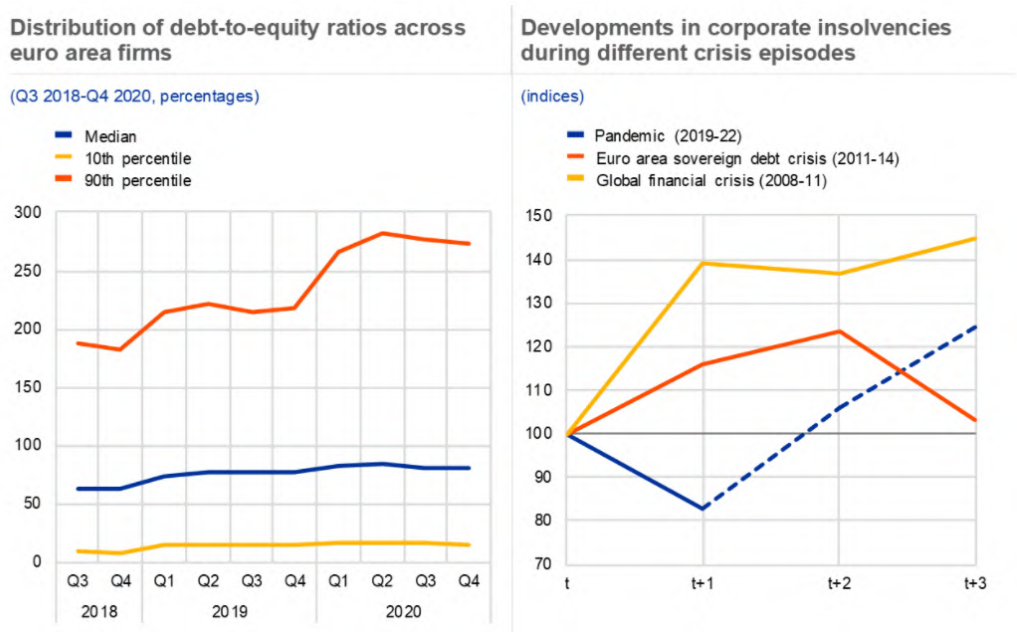
COVID pandemic has increased economic risks

The COVID-19 pandemic has made it even more important to address the debt bias, as it is expected to exacerbate debt financing. Economic losses resulting from the COVID-19 crisis have significantly weakened the equity position of many businesses. A drastic reduction in incoming cash flows has prompted many European businesses to raise additional debt to meet their short-term financial obligations. As a result, the capital structure of a number of businesses has become more fragile, putting some on the verge of insolvency. Researchers at the IMF estimate that about 2 to 3 percent of GDP will be needed to close the equity gap and provide firms in Europe sufficient equity, so that they would no longer be in difficulty (Ebeke et al. 2021). It is therefore of utmost importance to address the corporate debt-bias and promote the equitisation of European businesses in order to minimise future risks. Such a measure should also have positive effects at the macro level.

The ECB's financial risk assessment further strengthens such a conclusion. In November 2020, the ECB found that "the deterioration in NFC financial health was largely driven by a drop in sales, lower actual and expected profitability, and an increase in leverage and indebtedness" (ECB 2020). In May 2021, the ECB showed that the situation is especially dire for already vulnerable businesses with high debt-to-equity ratios since reliance on debt has increased among vulnerable businesses, amid higher rollover risks. Among the highest leveraged businesses, the 90th percentile debt-to-equity ratios has increased from 220% at end-2019 to over 270% in the final quarter of 2020 (see Figure 2, left panel). Corporate earnings expectations for the euro area have remained below pre-pandemic levels, while corporate funding conditions remained around the tightest levels seen since the pandemic started, especially for SMEs, highlighting elevated refinancing risks" (ECB 2021). According to IMF a share of maybe 20% of businesses face over-indebtedness and risk insolvency. The IMF also identifies an extremely high insolvency risk for SMEs under its current projections, potentially resulting in a loss of 1 in 10 SME jobs. The major cause of insolvency risk is a lack of equity financing (Diez et al. 2021).

[21] Own calculations based on Eurostat's financial national accounts (online data code: NASA_10_F_BS). Debt is the sum of debt securities, loans and financial derivatives and employee stock options. Non-consolidated data. Only non-financial corporations are considered.

Figure 2: Debt-to-equity ratios for Non-Financial Businesses and expected insolvencies.



Notes: left panel, Q1-Q4 refers to quarter 1 to 4 of the respective year; right panel, t refers to the year the respective crisis started as shown in the legend, t+1 indicates the following year and so on. The legend indicates that for each crisis a four year interval is considered.
Source: ECB, Financial stability review May 2021, https://www.ecb.europa.eu/pub/financial-stability/fsr/html/ecb.fsr202105~757f727fe4.en.html

The COVID-19 pandemic has resulted in high debt levels, not only at company but also at the sovereign level. Member States will need to identify means to lower current debt levels and increase revenues in order to engender a sustainable recovery and take pressure off public finances in the near-term. Measures such as the interest deduction that is currently applied across all Member States have an impact in this respect. They can entail potentially important losses in revenues for Member States. If we were to assume, for example, that the average interest rate of debt were 3%, and 70% of all debt is serviced by tax deductible interest payments, applying an EU-average corporate income tax rate of 26% would provide a very rough estimate of the costs of the existing deductibility of interest of EUR 64 billion for non-financial corporations and EUR 206 billion for financial corporations.

Specific investment needs require more equity

Specific investment needs required for the green and digital transitions of the economy and society provide further justification for tackling the debt-equity bias. These twin transitions constitute a policy priority for the EU, one that will require many risky investments, which in themselves will require greater equity investments. The EIB provides evidence that "green investments are specific in nature. They enhance welfare but are risky for investors.. Hence, the transition is likelier to be financed by risk-taking

and risk-absorbing instruments such as equity. Longer-term investors also need to be attracted."[22] (EIB 2021, Chapter 6.).

The importance of equity to foster the twin green and digital transitions has been highlighted by one of the business associations that responded to the public consultation. According to this business association, the twin transitions will require important levels of investment from both the public and the private sector, which means that businesses will need to find more diversified sources of financing. Therefore, measures that would reduce the debt-equity bias will be welcome to facilitate equity financing.

Insufficient equity financing

The insufficient supply of equity financing discourages investment in projects with higher risks which also have prospects for higher than average future returns. As such, it hampers innovation and growth. The scarcity and the higher cost of equity finance affects all companies, but is particularly problematic for young and innovative, businesses, which due to their risk profile, often have limited access to external debt funding. This problem is aggravated by limited access to alternative sources of finance such as venture capital. A number of Member States (especially France, Belgian and Italy) have introduced tax incentives to promote venture capital and business angel funding, but these types of finance represent only a small proportion of the current total funding mix[23]. Consequently, small and innovative businesses, often perceived by banks and financial institutions to be higher risk, might be at a particular disadvantage, despite their importance in generating future growth[24]. This problem also extends to businesses in need of scale-up-financing (e.g. Aernoudt 2017).

The European Investment Bank (EIB) shows that the availability of sufficient equity financing has further diminished during the COVID-19 crisis. Especially young and small enterprises as well as SMEs face an adverse environment. The slump in demand is more pronounced in sectors with many smaller firms, which have less flexible cost structures and more restricted access to finance. "Survey indicators suggest that various sources of finance specific to young enterprises and SMEs – such as private equity, venture capital and business angels – may dry up. This should cause concern as these sources of finance were already not sufficiently developed in Europe prior to the crisis" (EIB 2021).

At the same time the impact of insufficient equity financing has become direr because of the heightened specific investment needs related to the digital and green transition. This could limit the opportunities especially for SMEs to engage in profitable investments,

[22] See Chapter 6 of the EIB Investment report 2020/2021 where ample evidence is presented that market and equity based investments are more successful in greening the economy than

[23] See for example PWC (2017), Effectiveness of tax incentives for venture capital and business angels to foster the investment of SMEs and start-ups.

[24] Problems of equity financing are further discussed in a recent study on equity investments in Europe (European Commission 2021), https://op.europa.eu/en/publication-detail/-/publication/4a355d87-669a-11eb-aeb5-01aa75ed71a1/

due to their limited access to financing. This initiative could thus also support the recovery of SMEs and help them adapt to the new business environment.

The view that equity financing is insufficient in the EU is shared by some of the stakeholders that responded to the public consultation. According to a national business association, apart from a favourable tax treatment of debt over equity, capital markets are very hard to reach for SMEs, "as external private equity seems to be constrained to specific types of entrepreneurship." Another business association highlights the fact that because European businesses are still widely financed by bank loans, these are more vulnerable to shocks than American businesses which tend to have more access to other sources of financing.

Of course, this situation is not due to the debt bias alone; but this initiative would contribute to the objective of the EU's Capital Markets Union. In particular, and as previously highlighted, it would complement Action 4 of the Capital Markets Union Action Plan – which aims to incentivise institutional investors to make more long-term investments and thus support re-equitisation in the corporate sector – by addressing undue fiscal incentives for debt financing stemming from the differentiated tax treatment of debt and equity costs. On top of this broad policy objective of incentivising equity and diversifying financing, specific provisions of the initiative would align with other broader tax policy objectives – such as the fight against tax avoidance and evasion.

Limited number of measures to mitigate the debt-equity bias through an allowance on equity

Currently, only six Member States (Belgium, Cyprus, Italy, Malta, Poland and Portugal) have some form of tax allowance for equity in place in order to mitigate the debt-equity bias (see Table A7.1 in Annex 7 for an overview). Table 1 below indicates the actual debt-equity bias in those countries. The table reports effective average tax rates for retained earnings, new equity and debt, based on a notional interest rate on equity and retained earnings as applied in the respective Member States. The model used by ZEW to calculate these effective rates assumes a nominal interest rate of 7.1%. If the notional interest rate were equal to the nominal interest rate of 7.1%, only Cyprus would still have a small debt bias due to the construction of its measure. The appropriate choice of the notional interest rate can eliminate the debt bias (see ZEW 2020 and Annex 5).

Table 1: Effective average tax rates and debt-equity bias with actual notional interest rate.

	Belgium	**Cyprus**	**Italy**	**Malta**	**Poland**	**Portugal**
Notional interest rate	0%	5.536%	1.3%	6.43%	1.5%	7.0%
Retained Earnings	7	5.6	6.6	4.8	5.8	4.4
New Equity	7	5.6	6.6	4.8	5.8	4.4
Debt	4.7	4.9	4.8	4.4	4.7	4.3
Mean	6.2	5.4	6	4.6	5.4	4.3
Debt Bias*	2.3	0.7	1.8	0.4	1.1	0.1

Source: ZEW (2020)

Although all these measures provide for a tax allowance on equity, they differ in policy design (e.g., interest rate of the allowance, calculation of the basis for the allowance, type and severity of anti-tax avoidance measures). Such differences can have negative consequences for the single market. Firstly, the interaction between different measures, combined with the absence of equivalent measures in other Member States, can lead businesses to base their investment financing decisions on the availability (or not) and the generosity of rules that allow deductions for equity costs. This creates distortions and a misallocation of investments in the single market. Secondly, these measures, when applied at the national level only, without a harmonised anti-tax avoidance framework, can create loopholes that can be exploited for aggressive tax planning purposes and increase harmful tax competition among Member States, leading to tax avoidance and evasion. Finally, different country-specific approaches to mitigate the debt-equity bias increase compliance costs for businesses active across borders.

The need for measures to tackle the debt-equity bias, was recognized by some of the stakeholders during the public consultation. One business association expressed the belief that promoting equity financing is essential to promoting strong and sustainable business growth. This view was shared by another stakeholder which specifically stated that: "Tax measures that aim at facilitating equity financing will be welcome, provided they are coherent with the overarching economic policies." Business associations, companies and academics respondents clearly agree that such an initiative will reduce tax competition between Member States. Importantly, all respondents think that an EU initiative would be beneficial for enterprises operating across countries in the single market.

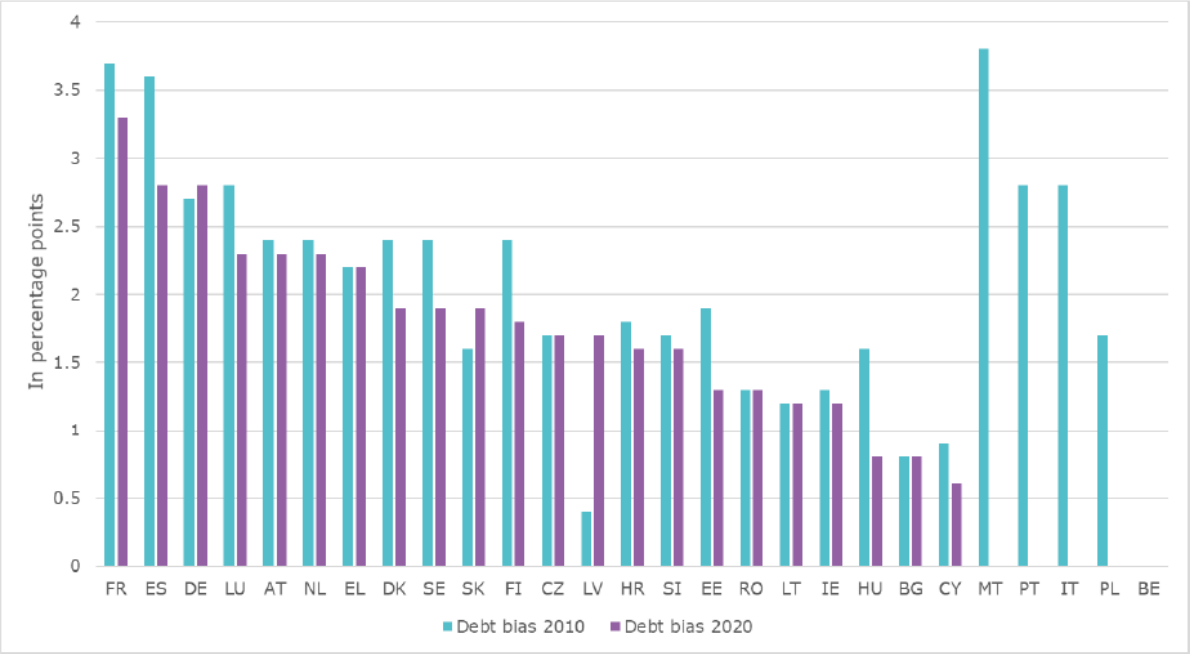
2.2. What are the problem drivers?

The debt-equity bias and its determinants

How large is the debt-equity bias? One approach to measure the debt-equity bias is to compare the cost of capital for equity-financed investments with that of debt-financed investments. Figure 3 shows the debt bias in corporate taxation, measured as the difference in cost of capital between new equity and debt-financed investment. One can see that the Member States which have implemented an allowance for equity (i.e., Belgium, Cyprus, Italy, Malta, Poland and Portugal) have no or a very low debt-equity bias[25]. Hence, the introduction of a specific measure on equity can lead to a reduction of even the elimination of the bias.

[25] Note that the cost-of-capital calculations are theoretical calculations based on the tax code. A zero debt-equity bias in MT, PT, IT, PL and BE thus follow by assumption and do not derive from an empirical measurement.

Figure 3: Debt-equity bias in corporate financing 2010 and 2020[26]



Source: Annual Report on Taxation (European Commission 2021)
Notes: (1) The cost of capital measures the required minimum pre-tax return of a real investment (the 'marginal investment') to achieve a 5% after tax real return. (2) To reflect the allowance for corporate equity in Belgium, Cyprus, Italy, Malta, Poland and Portugal, the assumption is that the rates of these allowances equal the market interest rate in the model. For Belgium, the debt-equity bias could be non-zero due to the notional interest rate being relatively low, while the eligible equity only covers the average annual increase over the previous 5 years. For Cyprus, the bias is small, since the allowance does not apply to investments in financial assets.

One can also see that countries with high statutory CIT rates tend to have a higher debt-equity bias. Ceteris paribus, the advantage of tax deductibility of interest payments increases with the statutory tax rate. The higher the rate of the corporate income tax in a given country, the stronger is the bias towards debt for the financing of new investments. In the last decade, while the debt-equity bias has increased or remained stable for some countries, it has decreased for others. The decrease is probably driven by the downward trend of CIT rates in the EU and the consistent decline in interest rates. However, this is a reversible trend such that specific measures might be needed to avoid a possible increase in the debt bias due to changes in macroeconomic variables.

The prevailing interest rate also affects the debt-equity bias. A higher interest rate results in higher interest payments that significantly reduce the taxable base of businesses. This means less tax is due. The tax-induced bias for debt is thus stronger. However, everything else being equal, one would expect that higher interest rates reduce the demand for debt with a possible negative impact on investment. In a similar vein, rising interest rates increase the burden for a company to service a given debt level. The ECB points out that "higher (risk-free) rates would increase debt servicing costs from historical lows and could raise medium-term risks in countries with elevated debt levels"

[26] BE appears in the figure as the sole country without a debt equity bias in 2010 because it was the only EU member state with an allowance for equity in place at the time. The 5 others have been introduced after 2010.

(ECB, 2021). Increasing interest rates thus increase the business risk associated with indebtedness and aggravate the problem of high debt levels.

The debt-equity bias can also be addressed through the tax-treatment of corporate debt. Many countries have implemented interest limitation rules or thin capitalization rules. Such rules limit the amount of interest that can actually be deducted. It has been shown that these rules increase the cost of debt and thus indeed reduce the debt-equity bias[27]. Common interest limitation rules in the EU have been introduced by the first Anti-Tax Avoidance Directive (ATAD 1)[28] with the primary objective of countering tax avoidance and aggressive tax planning. As indicated, these rules do to some extent also contribute to mitigating the debt-equity bias and related over-indebtedness.

The EU's interest limitation rule is laid down in Article 4 of ATAD 1 and prescribes that the total annual borrowing costs can be fully deductible for tax purposes to the extent that they do not exceed taxable interest and other economically equivalent taxable revenues. The deductibility of any excess borrowing costs (without distinction of whether the costs derive from domestic or cross-border transactions) is limited to the higher of:

- A Safe Harbour of EUR 3 million, or
- 30% of EBITDA (Earnings before interest, tax, depreciation and amortisation)

These are de-minimis provisions and Member States have implemented these rules differently. Some Member States have gone further, for example, by applying a lower Safe Harbour, a lower percentage limit than foreseen in the ATAD provision, or introducing the limit based on earnings before interest, tax and depreciation (EBITD) instead of EBITDA. An overview of the specific interest limitation rules applied in the EU is provided in Table A7.2 in Annex 7.

2.3. How will the problem evolve?

Most problems that are directly or indirectly related to the debt-equity bias will not change as long as the debt-equity bias persists and no specific measures to address it are introduced. The bias emanates from the different tax treatment of debt versus equity and there are no external drivers that, if addressed, would permanently solve or mitigate the issue. In other words, if no action is taken in the field of taxation, the debt bias and the associated negative repercussions will persist.

As detailed above, low CIT rates and low interest rates could reduce the bias. However, such measures depend on the macroeconomic situation more generally and might change. For example, an increase in inflation might lead to an increase in interest rates.

[27] See European Commission (2016b) and IMF (2016) on the effectiveness of interest limitation rules and thin capitalization rules for mitigation of the debt-equity bias.
[28] COUNCIL DIRECTIVE (EU) 2016/1164 of 12 July 2016 laying down rules against tax avoidance practices that directly affect the functioning of the internal market

Member States could also individually implement actions that reduce the debt bias and the 'price' of equity. So far, only a few Member States have used such measures, while the issue has been a long-lasting one. Accordingly, one may expect that it would take time for additional Member States to take action while some may continue to choose to take no action at all. Moreover, actions taken at national level can result in a patchwork of different rules, increasing regulatory complexity across the EU for businesses and creating opportunities for tax planning and tax avoidance and evasion.

Several EU policies that aim to provide incentives and access to financing, notably to meet the investment needs related to the recovery and the digital and green transitions, could contribute to reducing the cost of equity. The EU's Recovery and Resilience Facility (RRF) provides emergency financing for the recovery, containing minimum thresholds for investments and reforms geared towards the green and digital transitions. The RRF, however, is very much a country-led process in terms of the design and choice of policies, so it would not necessarily address the issue of cross-country differences. The Action Plan for the Capital Market Union[29] has also announced several policy measures aimed at improving the access to equity financing, such as encouraging more long-term and equity financing from institutional investors and increasing the visibility of businesses to cross-border investors. However, such measures do not directly address the tax-system induced treatment that incentivises or favours the use of debt over equity, which means the debt-equity bias will nonetheless persist. This is precisely why, as previously mentioned, both the Capital Markets Union Action Plan itself and the Commission's *Communication on Taxation for the 21st Century* seek action to specifically alleviate the tax associated burden in cross-border investment.

2.4. DEBRA in context of the Commission's Strategic Foresight report

An initiative to address the debt-equity bias is expected to foster an increase of equity investments in the EU and mitigate tax-related incentives that help sustain high leverage and overreliance on debt. Consequently, the DEBRA initiative could be expected to contribute positively to three of the ten areas identified in the EU's 2021 *Strategic Foresight Report* ("SFR")[30]. On the area of "Digital hyper connectivity and technological transformations" the SFR states that the EU lags behind its main competitors in the availability of "private investment into research". By reducing the treatment differences between debt and equity, DEBRA may create incentives to increase private investments in the EU.

The same applies to the area of environmental and energy innovation. According to the SFR, the EU will need EUR 470 billion in investment to reach its 2030 climate and environmental objectives; and new technologies will be key to ensuring that energy decarbonisation objectives are reached. These investments will require a massive mobilization of private capital. Addressing the debt-equity bias and introducing a means

[29] COM(2020) 590 final
[30] https://ec.europa.eu/info/strategy/strategic-planning/strategic-foresight/2021-strategic-foresight-report_en

of incentivising equity would facilitate an increase in private investment in green innovative technology and thus help the EU reach its 2030 climate objectives.

Lastly, the initiative is also in line with the EU's objectives of creating resilient and stable economies that are prepared for future shocks. According to the SFR, solid economic fundamentals, productivity, investments and reforms will determine the EU's future economic performance, linked with positive financing conditions for the public and private sector. High-levels of debt increase risks of bankruptcy and of a systemic crisis. By reducing incentives to debt financing and promoting equity investments, DEBRA would lower debt levels of EU companies and contribute to a more robust economy.

3. WHY SHOULD THE EU ACT?

The debt-equity bias is a long-standing issue that has gained much attention globally from business and academic research. With this initiative, the EU, one of the world's major economic actors and one of the largest capital markets globally, would act to remedy the bias in a coordinated and harmonised way, with a strong homogenous anti-tax abuse framework applicable across the EU, mitigating mismatches and loopholes. Only an EU-wide measure can mitigate the problem across the EU for all EU businesses, while not leaving room for harmful tax practices.

3.1. Legal basis

The legal base for this initiative is Article 115 TFEU on the approximation of laws of the Member States, which directly affect the establishment or functioning of the internal market. The identified problems, their underlying causes and reasons for coordinated action are common to all Member States. The article provides for the adoption of legislation through directives, following the special legislative procedure, which requires a unanimous vote by Member States in Council. The European Parliament and the Economic and Social Committee have to be consulted but do not hold decision-making power. Directives are addressed to Member States and solely bind them as to the result to be achieved while leaving the means (for doing so) to national transposition measures.

The current initiative complements the new framework for business taxation in the EU that the Commission is committed to present by 2023. The "Business in Europe: Framework for Income Taxation" (or BEFIT) will provide a single corporate tax rulebook for the EU, providing for fairer allocation of taxing rights between Member States. BEFIT will replace the 2016 CCCTB proposals, which also included a proposal for an Allowance for Growth and Investment[31].

Concerning the anti-tax abuse framework that will need to accompany the rules on the deductibility of equity costs, the Code of Conduct Group on Business Taxation has

[31] COM(2016) 685 final

issued guidance on notional interest deduction regimes[32] and this blueprint will guide the work on the anti-tax avoidance rules that will be integrated in the legal proposal.

3.2. Subsidiarity

According to the subsidiarity principle laid down in Article 5(3) TFEU, action at EU level should be taken only when the aims envisaged cannot be achieved sufficiently by Member States acting alone and in addition, by reason of the scale or effects of the proposed action, can be better achieved by the EU.

3.2.1. Subsidiarity: Necessity of EU action

There are a number of reasons why EU level action, rather than national action, is needed to mitigate the tax debt-equity bias.

First, the problem described in Chapter 2 is widespread across the EU and common to all Member States. Most Member States' corporate tax systems allow a company to deduct for tax purposes interests that arise from debt financing while the costs related to equity financing (notably, payments of dividends) are not tax deductible. It must be note that interest deductions are already subject to some kind of limitations according to existing EU rules (ATAD1).

Second, six Member States have already unilaterally addressed the debt-equity bias at national level through the introduction of a tax allowance on equity. However, these measures differ considerably in policy design (e.g. interest rate of the allowance, calculation of the basis for the allowance, type and severity of anti-tax avoidance measures). The interaction between these disparate national frameworks, combined with the absence of equity-side measures in other Member States, may lead to market distortions and a misallocation of investments in the single market, as businesses may base their investment decisions on the availability (or not) and the generosity of rules that allow deductions for equity costs.

In addition, the interaction of widely divergent national measures with a non-harmonised anti-tax avoidance framework may inadvertently create loopholes, which can be exploited for aggressive corporate tax planning purposes. While these elements are not the only drivers, their combined effect is that the differentiation across the EU27 may result in increasing harmful tax competition among Member States. These opportunities encourage practices of tax avoidance and evasion in the EU. Existing EU legislation cannot address such distortions, resulting from the differentiated tax treatment of debt and equity.

Finally, different country specific rules also imply higher compliance costs for businesses active in cross-border operations within the single market, as they are called on to comply with various sets of different rules. Such compliance costs will be significantly reduced if a single EU-wide rule applies.

[32] WK 11093/2019 REV 1 from 17 October 2019

In other words, there is a problem that is common to Member States and can only partly be addressed by national action. In addition, national action may even have undesirable implications, by leaving open a margin for harmful tax practices. This conclusion is supported by some stakeholders, which state that an EU-wide initiative, establishing a common approach, would reduce tax competition and fragmentation, establishing a common approach. Stakeholders further highlighted that a common approach would help reduce administrative burdens and facilitate access to the benefits of the measure.

During bilateral contacts with the Commission services, a Member State shared the outcome of their *study into a more equal treatment of equity and debt*. This study concludes that a more equal tax treatment of equity and debt is desirable to reduce the debt bias and strengthen the financial resilience of the business community and that it is preferable to achieve this objective in an international or multilateral context. This study also states that *a European coordinated approach within the EU contributes to the prevention of mismatches, tax avoidance and leads to less excessive debt financing*.

3.2.2. Subsidiarity and Proportionality: Added value of EU action

An EU level initiative will provide wider benefits for the single market compared to the present fragmented situation of national initiatives.

It would alleviate distortions in the single market, which are potentially caused by practices of harmful tax competition amongst Member States that are enabled due to fragmentation. In addition to a harmonisation of rules, it would also provide a sound anti-tax abuse framework, based on measures discussed and evaluated in the Code of Conduct group, to tackle aggressive tax practices often linked to opportunities that arise when equity costs are made deductible. Varying national rules for notional allowances on equity can be exploited for aggressive tax planning purposes. Operating one set of rules across the EU will help reduce aggressive tax planning in the single market. It will limit the scope for mismatches between disparate rules and the loopholes that businesses can take advantage of.

A harmonised tax environment for businesses in this field could also create legal certainty for taxpayers that the rules on the deductibility of equity costs are compliant with EU law. A single set of rules could help taxpayers ascertain that all national tax administrations apply these rules in a similar manner and hence lower the risk of disputes.

In the same vein, a measure at EU level would also simplify the compliance burden. Given the cross-border dimension of the potential tax avoidance schemes linked to the deduction of equity-financing costs, diverging anti-tax abuse rules, different definitions of equity and the availability of various ways for integrating such measures in the overall framework of tax deductions naturally increase compliance costs. For businesses active across the EU, this initiative will thus bring gains in terms of simplification of compliance. This cannot be effectively achieved through soft law instruments, as has been proven in practice. Following a binding legislative initiative, a company, no matter

in which Member States it is active, would operate in the same legal context regarding the tax treatment of equity financing. In addition, all affected businesses would benefit from the same measure and face the same obligations, which would promote a level playing field in the single market.

An action at EU level will also be more effective than individual fragmented actions taken at Member State level and at Member States' discretion to address the tax-induced debt bias. National measures can only be used by SMEs located in those Member States that apply debt bias mitigating measures, or by MNEs that can afford to locate the financing company of the group in such Member States. SMEs located in Member States that do not have any tax debt bias mitigating measure can, as such, face higher costs for equity financing as compared to SMEs in other Member States. An EU level initiative will provide for a single solution to mitigating the tax-induced debt bias that all businesses across Europe can avail themselves of, regardless of their size or Member State of tax residence.

Finally, by reducing in all Member States the preferential tax treatment of debt which comes at the expense of other financial instruments (in particular equity), the initiative will contribute to making financing more accessible to all European businesses, a key objective of the 2020 Communication on a Capital Markets Union (CMU) for people and businesses[33]. By providing for a common approach to mitigating the debt bias, this initiative will also contribute to the integration of national capital markets into a genuine single market, another key objective of the CMU communication. By removing the tax debt bias, which leads businesses to favour investment financed by debt, the initiative will contribute to the re-equitisation of European businesses. This will increase their resilience to unforeseen changes in the business environment and decrease the risk of insolvency, thereby indirectly contributing to bringing more financial stability in the EU.

4. OBJECTIVES: WHAT IS TO BE ACHIEVED?

This section defines the general and specific objectives of the initiative. The 'Intervention Logic' in Figure 4 visually presents the problems, their drivers, the specific objectives and the general objective of DEBRA.

4.1. General objectives

The first important objective of this initiative is to establish the conditions necessary such that financing decisions are made based on an appropriate risk management profile, taking into account financing needs, without distortions being created by differentiated tax treatments. While it is clear that a multiplicity of legitimate determinants influence

[33] Communication From The Commission To The European Parliament, The Council, The European Economic And Social Committee And The Committee Of The Regions Capital Markets Union - Delivering One Year After The Action Plan, Com/2021/720 Final

businesses' investment decisions, provisions of the tax system should not influence the choice between equity and debt.[34]

The second objective is to reduce distortions in the single market created by the interaction between disparate national measures combined with the absence of equivalent measures in other Member States.

The third important objective of this initiative is to mitigate the risk that businesses take advantage of the interaction among tax systems with and without debt-equity bias mitigating measures and with non-harmonised anti-tax abuse frameworks for tax avoidance and tax evasion practices.

A fourth objective is to increase the stability of the financial system such that action is taken that will support growth and investment

4.2. Specific objectives

This initiative supports the creation of a harmonised tax environment that places debt and capital financing on an equal footing across the EU. This will encourage investment in equity, help reduce distortions in the single market and facilitate cross-border activity.

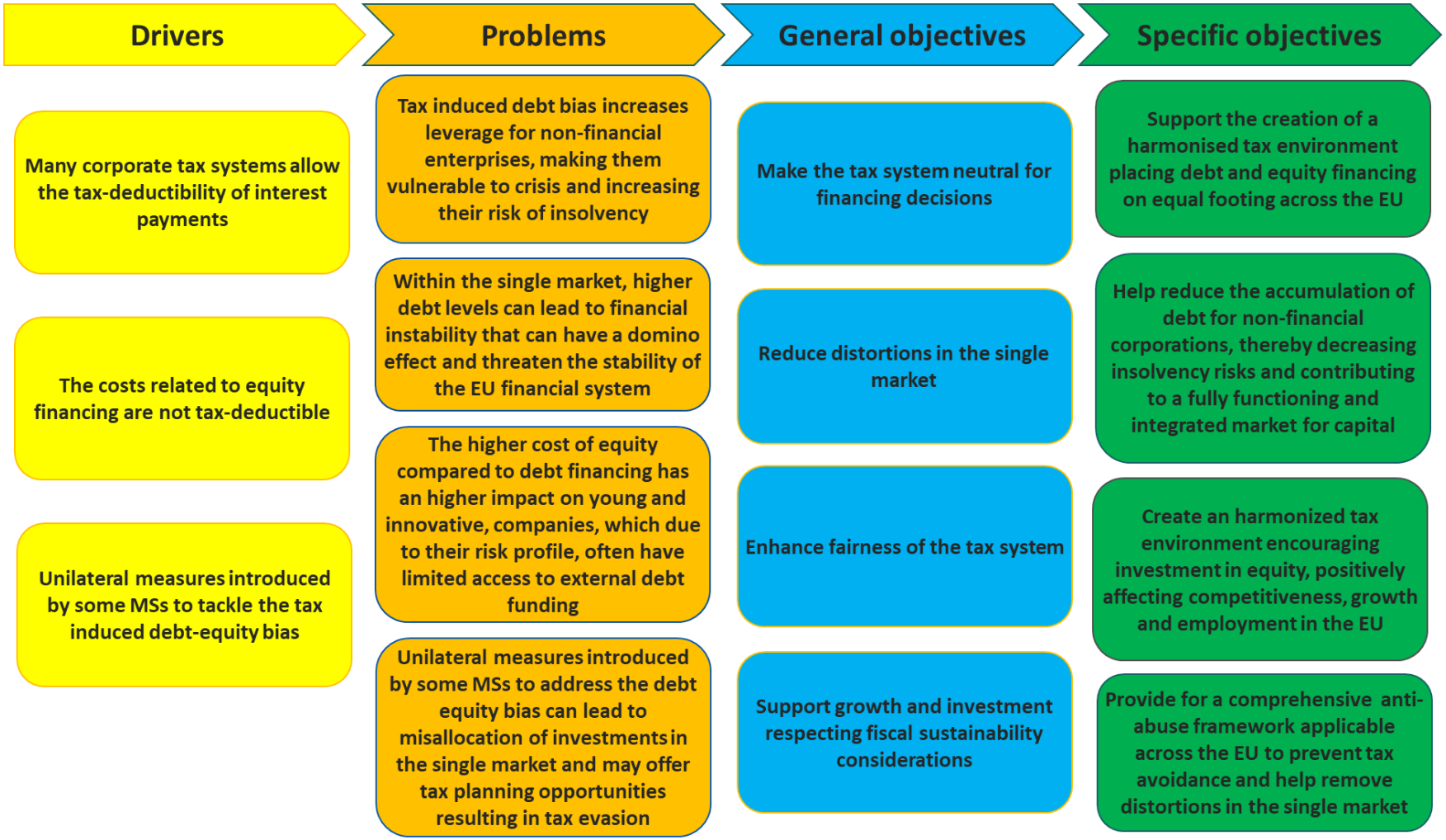
This initiative aims to contribute to the re-equitisation of EU-based businesses, thereby supporting wider EU policies such as the European Green Deal, the Commission's digital agenda and the New Industrial Strategy for Europe. It aims to boost competitiveness, growth and ultimately employment in the EU. Following the COVID-19 health crisis and in the framework of the transition to a green and digitalised economy, substantial equity financed investments are of central importance for a fast and sound recovery. The ecological and digital transitions that the EU and its Member States are undertaking will require new technologies and innovation that imply large investment. Break-through technologies will likely require, like all risky investments, greater equity financing. Moreover, businesses with a solid capital structure are less vulnerable to shocks and more prone to make investments and to take risks.

By addressing the asymmetric tax treatment between equity- and debt-related costs, the initiative will help reduce the accumulation of debt for non-financial corporations, thereby decreasing insolvency risks. It will contribute to building a fully functioning and integrated market for capital, allowing the EU's economy to grow in a sustainable way and be more competitive as set out in the 2020 Communication on Capital Markets Union.

In addition, this initiative is expected to further remove distortions in the single market, as it will be combined with a comprehensive set of anti-tax abuse provisions to prevent businesses from circumventing the measure.

[34] It is alternatively argued that in a situation with comparatively low levels of equity in the corporate capital structure, the tax system should not be biased against equity.

Figure 4. Intervention logic



5. WHAT ARE THE AVAILABLE POLICY OPTIONS?

5.1. What is the baseline from which options are assessed?

The baseline scenario is established on the premise that, in the absence of intervention at the EU level, the tax induced debt-equity bias will persist in most Member States and the minority of Member States that have been frontrunners in adopting measures to mitigate the debt-equity bias at national level will continue to apply non harmonised tax-allowances on equity financing. Businesses' investment decisions will thus continue to be distorted by the availability (or not) and the generosity of rules that allow notional deductions for the cost of equity capital. In a baseline scenario, the distortions and misallocations of investment in the single market as outlined earlier in this assessment will persist alongside the other factors that impact or influence financing decisions, such as avoiding the dilution of control/voting rights of existing equity owners, limited access to equity financing, or debt financing being cheaper than equity financing.

In the absence of an EU-wide initiative to tackle the tax induced debt-equity bias, it is likely that compliance costs and the fragmentation of the legal framework in place will persist or could even increase. As detailed in Chapters 2 and 3, maintaining diverse national measures against the tax induced debt-equity bias across the Union is likely to compromise the effectiveness and efficiency of these rules even at national level. Given the close integration of European economies and the fact that corporate groups usually operate across several Member States, compliance costs for groups faced with several different national measures to mitigate the bias are higher compared to a situation in which an EU-wide measure were to be in place. Concerning SMEs specifically, these specific types of businesses can benefit from national measures only if they are located in one of the Member States that have debt bias mitigating measures in place. SMEs located in Member States that do not have any tax debt-bias mitigating measure face a higher cost for their equity financing in comparison to other SMEs in the EU. This can act as a barrier for such SMEs, preventing them from scaling up or making riskier investments that would support their growth and stability, reducing the competitiveness of the European economy as a whole[35].

At this stage, the EU Code of Conduct for business taxation is the sole instrument that provides for a harmonised framework against abuse of Member States' notional interest deduction schemes. In 2019, the Code of Conduct issued "Guidance on the assessment of NID Regimes"[36]. This Guidance mentions a number of limitations to the scope and anti-tax abuse measures that should be in place in order to prevent tax planning and address abusive situations when applying notional interest deduction regimes. However, the Code, as a soft law instrument, which relies on a political commitment by Member

[35] On the general financing problems for companies when scaling up see e.g. Aernoudt (2017).
[36] WK 11093/2019 REV 1, Brussels 17 October 2019

States, does not provide for a fully harmonised anti-tax abuse framework for national measures. The Code's conclusions have not led to a similar approach to addressing the debt-equity bias in those Member States who have implemented measures at national level.

A binding measure at EU level would tackle the specific issues at stake in a more efficient and effective manner than the current mix of purely national measures and soft law. This is even more important in the current context of ecological and digital transitions, which will require major equity investments to finance the new technologies and innovation needed. This legislative action at the EU level aims at addressing the specific point of the tax debt equity bias; it will act in complementarity to other initiatives intended to support diversification of funding, longer-term funding options, and incentivise equity.

5.2. Policy Options

The following policy options would be applied to all businesses in the EU.

5.2.1. Allowance for a notional interest on all corporate equity (Allowance for corporate equity (ACE) - Option 1)

Option 1 provides for a legislative initiative that would envisage an allowance on the **stock of corporate equity**. Equity is defined[37] as the sum of paid-up capital, the share premium accounts, revaluation reserve and reserves[38] and profit or loss brought forward. The value of the allowance is determined by multiplying the allowance base with the notional interest rate.

The allowance base of a taxpayer in a given tax year is defined by the difference between the stock of equity at the end of the tax year minus the tax value of its participation in the capital of associated enterprises and the value of its own shares. Participations and the value of own shares are excluded from the allowance base in order to prevent cascading of the allowance through participations (for details see section 5.3.2 on associated enterprises below).

Since the allowance is granted on the stock of corporate equity, the duration of the allowance is implicitly unlimited. As long as the value of equity in a company is higher than the value of its participations, the company can request the allowance.[39]

[37] In the sense of Annex III to Directive 2013/34/EU of the European Parliament and of the Council on the annual financial statements, consolidated financial statements and related reports of certain types of undertakings.

[38] Reserves include: 1. Legal reserve, in so far as national law requires such a reserve; 2. Reserve for own shares, in so far as national law requires such a reserve, without prejudice to point (b) of Article 24 (1) of Directive 2012/30/EU; 3. Reserves provided for by the articles of association; 4. Other reserves, including the fair value reserve

[39] A sub-option with a restricted equity definition has also been analysed for this option. Please refer to Annex 5.3 for discussion and results.

5.2.2. Allowance for a notional interest on new corporate equity (Allowance for new corporate equity (ANCE) - Option 2)

Option 2 provides for a legislative initiative that would envisage a notional interest allowance on **new equity**. Equity is defined[40] like in option 1 as the sum of paid-up capital, the share premium accounts, revaluation reserve and reserves[41] and profit or loss brought forward. The value of the allowance is determined by multiplying the allowance base with the notional interest rate..

This option entails an **incremental allowance**, meaning that it is granted on the difference in the level of net equity at the end of the tax year compared to the level of net equity at the end of the previous tax year multiplied by the notional interest rate. Net equity is defined as the difference between the equity of a taxpayer as defined in the previous paragraph and the tax value of its participation in the capital of associated enterprises and its own shares. Participations and the value of own shares are excluded from the allowance base in order to prevent cascading of the allowance through participations (for details see 5.3.2. on associated businesses below). In case of a net equity decrease, an amount equal to the allowance equity base decrease multiplied by the notional interest rate would become taxable.

This allowance is granted for ten years in order to emulate the average maturity of debt and limit the fiscal cost.

In case the allowance base is negative in a given tax year, an amount equal to the decrease in the allowance base multiplied by the notional interest rate becomes taxable. This is important to prevent that the same equity is repeatedly re-introduced into a company to obtain repeated allowances. In addition, this option should be coupled with specific anti-tax abuse rules to ensure that new capital can only benefit once from the deductibility no re-categorisation of old equity as new equity.

Since only increases in equity will qualify for an allowance, this option will create much stronger incentives for businesses to take up new equity compared to Option 1.[42]

5.2.3. Allowance for a notional interest on corporate capital: equity+debt (Allowance for corporate capital (ACC) - Option 3)

Option 3 provides for a legislative initiative that would envisage a new allowance for notional interest **on corporate capital** (i.e., equity, as per also Options 1 & 2) **and debt,**

[40] In the sense of Annex III to Directive 2013/34/EU of the European Parliament and of the Council on the annual financial statements, consolidated financial statements and related reports of certain types of undertakings.

[41] Reserves include: 1. Legal reserve, in so far as national law requires such a reserve; 2. Reserve for own shares, in so far as national law requires such a reserve, without prejudice to point (b) of Article 24 (1) of Directive 2012/30/EU; 3. Reserves provided for by the articles of association; 4. Other reserves, including the fair value reserve

[42] A sub-option with a restricted equity definition has also been analysed for this option. Please refer to Annex 5.3 for discussion and results.

while deductibility of actual interest payments is disallowed. The value of the allowance is determined by multiplying the allowance base with the notional interest rate.

The allowance base in this case is defined as the total amount of debt and equity (debt + paid-up capital + share premium account + reserves + profit or loss brought forward). In this option, the notional interest rate for equity and debt is identical by construction. The cost of equity and the cost of debt are thus perfectly equated.

This options is being evaluated for its ability to perfectly eliminate the debt-equity bias. The fiscal implications of the measure will depend on the level of the notional interest rate chosen. Businesses will receive a notional allowance for equity and debt alike. They would thus generally profit from the measure since it would reduce effective tax rates. Only for companies with very high interest payments or if the notional interest rate is very low, could the loss of deducibility of interest payments outweigh the positive effect of obtaining an allowance for equity. Since the allowance is based on the full stock of capital, the duration is implicitly unlimited.

5.2.4. Non-deductibility of interest payments (NDI - Option 4)

Policy **Option 4** provides for a legislative initiative that would **completely disallow the deductibility of interest expenses**. This fully aligns the tax treatment of debt and equity costs by making both non-deductible.

Debt already existing by the time the measure is announced would be grandfathered for its full maturity in order to mitigate immediate impacts on businesses. Long term debt, which will be signed after approval of the measure but before implementation, would be grandfathered for a duration of ten years. This limited grandfathering would limit the incentive to roll-over existing debt just for the sake of being grandfathered. Under option 4 as under all other options, the adoption of the DEBRA directive would be accompanied by the abolition of existing national schemes providing an allowance on equity.

5.2.5. Combination of equity and debt related measures (Option 5)

Option 5 provides for a legislative initiative that would **combine an allowance for notional interest on new corporate equity (same as proposed under Option 2) with a partial limitation of tax deductibility**. The combination of an equity allowance with a partial interest limitation rule would tackle the debt-equity bias simultaneously from the debt and equity side. At the same time, the limitation of interest deductibility would help finance the allowance for equity. As per Options 1, 2 and 3, equity is defined as the sum of paid-up capital, the share premium accounts, revaluation reserve and reserves[43] and profit or loss brought forward. The allowance would also be **incremental** – i.e., granted on a base equal to the difference in the level of net equity at the end of the tax year

[43] Reserves include: 1. Legal reserve, in so far as national law requires such a reserve; 2. Reserve for own shares, in so far as national law requires such a reserve, without prejudice to point (b) of Article 24 (1) of Directive 2012/30/EU; 3. Reserves provided for by the articles of association; 4. Other reserves, including the fair value reserve

compared to the level of net equity at the end of the previous tax year (new corporate equity). In the same vein, and as per Option 2, net equity is defined as the difference between the equity of a taxpayer (paid-up capital + share premium account + reserves + profit or loss brought forward) and the tax value of its participation in the capital of associated enterprises and its own shares. The allowance could be granted for 10 years in order to emulate the average maturity of debt.

The partial limitation of tax deductibility of interest expenses could be implemented by simply reducing interest deductibility by a given proportion of x% for all companies. The parameter x would need to be further defined. Such a proportional interest limitation in the context of DEBRA would also need to define the interaction with existing interest limitation rules (ILRs), specifically the ILR contained in the EU's Anti Tax Avoidance Directive 1 (ATAD 1). The ATAD 1 ILR states that net interest expenses can only be deducted up to a value of 30% of the company's EBITDA with a safe haven of EUR 3 million (as minimum requirement)[44].

It could be decided to keep ATAD 1 and DEBRA ILRs mutually exclusive, with the more stringent ILR being applied. This would imply that companies affected by ATAD 1 ILR, would fall under ATAD 1 ILR while all other companies would fall under the proportional DEBRA ILR. At first sight such an approach seems even-handed, since each company would be captured under the more stringent ILR. The ATAD 1 ILR however allows in several Member States the carry forward of non-deductible excess interest expenses so that eventually all interest expenses can potentially be deducted, albeit at a later point in time. In contrast, the DEBRA ILR would not allow for any carry forward of non-deductible interest expenses. Companies being captured under ATAD 1 would thus be treated preferentially compared to all other companies for which the DEBRA ILR would apply. As a consequence the interaction between DEBRA ILR and ATAD 1 ILR might thus be preferably designed in a sequential way. Under such sequential treatment, all companies would first apply the proportional DEBRA ILR. In a second step the ATAD 1 ILR would be applied. Relevant net interest expenses to be capped at 30% of EBITDA or the safe harbour of EUR 3 million would only bel those net interest expenses which have not been already limited by the DEBRA ILR. (In the case where the DEBRA ILR is 20% so that 80% of net interest expenses are deductible and the company has net interest expense of EUR 500000, EUR 100000 of net interest expenses would not be deductible under DEBRA ILR. The remaining EUR 400000 would now be applied to ATAD 1 ILR. Since there is a safe harbour of EUR 3 million or at least 1 million, the company would not further fall under ATAD 1 ILR).

Table 2 provides an overview over the five different policy options.

[44] See Annex 7.2 on the specific implementation of ATAD 1 ILR across Member States.

Table 2. Overview of policy options

Policy options	Approach	Allowance base and equity definition	Other design elements
Option 1	Notional interest deduction; no specific action on the debt side.	**All equity**, net of participations and value of own shares; Equity definition comprises paid-up capital, the share premium accounts, revaluation reserve and reserves and profit or loss brought forward.	Notional interest rate, definition of associated enterprises, anti-abuse framework
Option 2	Notional interest deduction; ; no specific action on the debt side.	**New equity**, i.e. year on year increase in equity, net of year on year increase in participations and own stocks; Equity definition comprises paid-up capital, the share premium accounts, revaluation reserve and reserves and profit or loss brought forward.	Notional interest rate, definition of associated enterprises, anti-abuse framework
Option 3	Notional interest deduction; Current deduction on debt related interest is disallowed. But debt is included in the base for the notional allowance.	**All corporate capital**, i.e. equity (paid-up capital, the share premium accounts, revaluation reserve and reserves and profit or loss brought forward) and debt, net of participations and value of own shares.	Notional interest rate, definition of associated enterprises, anti-abuse framework
Option 4	No deduction of interest payments. Measure focuses on the debt side only.	Deduction of interests paid on debt is fully disallowed. No allowance of any kind is granted.	n.a.
Option 5	Notional interest deduction for equity plus partial limitation of interest deductibility	**New equity** (as under Option 2), i.e. year on year increase in equity, net of year on year increase in participations and own stocks; Equity definition (as under Option 2) comprises paid-up capital, the share premium accounts, revaluation reserve and reserves and profit or loss brought forward. Introduce limitation of interest paid on debt (e.g. proportional limitation rule).	Notional interest rate, definition of associated enterprises, anti-abuse framework, interest limitation rule

5.3. Common elements

This section discusses the notional interest rate, associated enterprises and the anti-abuse framework. These are elements common to all policy options that allow a notional interest deduction (options 1, 2, 3, 5).

5.3.1. The notional interest rate

The choice of the notional interest rate (NIR) is an important parameter, relevant for all options granting an allowance for equity (i.e. options 1, 2, 3, 5). The notional interest rate is one of the determinants of the value of the allowance and thus affects the cost of equity as well as the reduction of taxable income.

In the construction of a notional interest rate, there is a trade-off between simplicity and exactness. Three approaches can be envisaged: (1) One single NIR could be applied across the EU. (2) There could be a currency specific NIR for each currency in the EU, or (3) there could be a specific NIR for each Member State. One unique notional interest rate for the EU would be simple to apply and would provide for a high degree of harmonisation across Member States. A single EU-wide rate however would disregard differences in financing conditions, amongst others currency risks, between Member States leading to possible distortions which could result in (dis)advantages for Member States not in the Euro-area. The opposite case of a unique EU-wide NIR would be a country specific NIR which would reflect the specific average financing conditions in each Member State. Such an approach however creates complexity due to a large number of NIRs. The risk-free rate strongly depends on the currency, because of characteristics like inflation and central bank policy. A currency specific notional interest rate is the intermediate approach between the two extremes, accounting for currency risks and some country specificities while limiting the number of different NIRs.

In general, the notional interest rate (*NIR*) could be determined with reference to an interest rate for risk-free investments (risk free interest rate, *RFR*) adding a risk premium (x) to take into account the fact that private borrowers usually face higher interest rates than risk free borrowers.

$NIR = RFR + x$ (*RFR* is the risk free interest rate, x the risk premium)

The reference to the risk free rate will capture changing market conditions.

The European Insurance and Occupation Pensions Authority (EIOPA) regularly publishes risk free interest rate schedules for a wide range of maturities. A transparent and peer-reviewed methodology[45] for determining the risk free rates has been determined and serves as basis for implementation of EU legislation (Solvency II). The applied method results in risk free rates for each currency. Such an approach would thus have the additional benefit of assuring consistency across EU legislation.

[45] See https://www.eiopa.europa.eu/sites/default/files/risk_free_interest_rate/12092019-technical_documentation.pdf

The currency specific EIOPA 10-year risk-free-rate[46] published in December could thus be used as the reference risk-free rate for the following tax year.

The **risk premium** could be determined in different ways.

a) A fixed risk premium, following the example of existing measures for an equity allowance.

b) A risk premium conditioned on available market rates. The credit risk premium is the compensation that investors ask for investing into risky debt instruments. It can be assessed as a spread between yields on risky debt instruments and risk free bonds. The risk premium would be determined as difference between the market rate and the risk-free rate: $x = MR - RFR$ where MR is the yield on risky debt instruments. The notional interest rate would be determined as follows:

$$NIR = RFR + x$$

$$\Rightarrow NIR = RFR + MR - RFR$$

$$\Rightarrow NIR = MR$$

Accordingly, a market index reflecting the overall corporate market could be directly used to obtain the yields of risky debt instruments and thus to determine the notional interest rate. Different relevant indexes would have to be considered.

A fixed risk premium provides simplicity, clarity and predictability. In contrast, conditioning the risk premium to market rates might result in "dramatic variation over time" and "co-movement with macroeconomic indicators, even after controlling for expecting default losses" (Berndt et al., 2018). The use of market indices as reference rate would further have the issue that most available market indices are proprietary and not freely available[47]. They are created and could be modified or discontinued by financial service institutions, which themselves could benefit from DEBRA. In order to assure tax certainty for taxpayers and to mitigate the volatility of the reference rate, the notional interest rate should be linked to a value of the reference rate in the past.

Given the above-mentioned considerations and issues, it is proposed to determine the Notional Interest rate (NIR) of the allowance under DEBRA by taking the currency specific EIOPA risk free rate as the reference and adding a fixed risk premium. Based on European Commission empirical analysis, taking into account credit and equity costs, the rsik premium could take alternative values between 0% and 6%. Higher values of the risk premium generally imply a stronger reduction of equity costs for companies but also higher fiscal costs for Member States. There is generally no analytical solution to balance this trade-off so that the decision for the appropriate risk premium needs to be based on a value judgment taking into account the broader context.

[46] See https://www.eiopa.europa.eu/tools-and-data/risk-free-interest-rate-term-structures_en.
[47] See e.g. Gilchrist and Mojon (2018), https://publications.banque-france.fr/en/economic-and-financial-publications-working-papers/credit-risk-euro-area

5.3.2 Associated enterprises

Cascading an allowance on equity through participations is a well-known way of abusing equity allowance measures. In this type of scheme, a first amount of genuine equity injection is transferred to other related businesses through participations, in order to easily multiply the allowance deduction. The number of cascades is virtually unlimited. To prevent cascading the allowance through participations, the participation in associated enterprises will be deducted from the allowance base in the options where this is relevant (options 1, 2, 3, 5). Associated enterprises are defined using a 25% control threshold as under the DAC 6 definition[48].

5.3.3. Anti-Tax Abuse Framework

The measure will encompass an anti-tax abuse framework. A set of Specific Anti Abuse Rules (SAARs) – inspired from the Guidance on notional interest deduction regimes adopted in 2019 by the Code of Conduct (Business Taxation) – will address the well-known avoidance schemes using this type of measure (e.g. cascading within a group by means of loans, acquisition of businesses held by associated enterprises, etc.). A set of potential anti avoidance rules are presented in Annex 8.

5.3.4. Interest limitation rules included in ATAD 1

Under options 1, 2 and 3, the current ATAD rules would stay in place. Under Option 4, the deductibility of interest payments would be completely disallowed; the interest limitation rule of ATAD 1 would thus become obsolete. Option 5 combines an allowance for equity with a partial restriction of interest deductibility. ATAD 1 rules would still remain in place. The measure however has to define the interaction between ATAD 1 ILR and DEBRA ILR. The rules could be applied mutually exclusive or sequentially. Under exclusive treatment, the more stringent rule would apply, while under sequential treatment the proportional DEBRA ILR would first be applied to all companies, with ATAD 1 ILR then being applied to the remaining net interest expenses.

5.3.5. Exclusion of the financial sector

The measure will apply to all sectors except Financial Corporations. The reason for this is that an equity allowance and an interest limitation have very different impacts on Financial Companies (FCs) and Non-Financial Companies (NFCs). FCs usually have more interest received than interest paid. Therefore, the interest limitation would not apply for them since the basis (interest paid-interest received) would be negative. This means that NFCs would finance the allowance on equity of the FCs. Moreover, FCs are subject to regulation on their capitalisation, which means that the issue of under capitalisation is addressed in another way.

The possibility of limiting the allowance to companies active in certain sectors was explored within the Commission. One option would have been to base the choice on

[48] Council Directive (EU) 2018/822 of 25 May 2018

sectors on the EU's Taxonomy Regulation, as this has already engendered much debate and is based on a prevailing agreement with Member States. The outcome of this reflexion was that firstly, the DEBRA would have become extremely complex if not impossible to implement in practice. Companies would have to be individually checked (against the taxonomy) in order to be granted the allowance, introducing a potentially enormous burden on tax administrations. The changing nature of what could potentially constitute 'eligible sectors' at any given time could have also meant discrepancies in the treatment of companies in the same sector over time. Second, the objective of the DEBRA is to address the debt-equity bias in the EU, and not only in certain sectors. This possibility was therefore discarded and not considered as a viable design element of a possible allowance on equity.

5.4. Increased allowance for SMEs

SMEs often face a higher burden to obtain financing. Especially young and innovative companies need equity financing due to their specific risk structure. The measure could thus grant a higher notional interest rate for SMEs to meet SMEs higher financing costs and equity demand. Such a rate top-up can be applied in all cases outlined under policy options 1, 2, 3 and the allowance element of Option 5. The measures proposed in these policy options would apply in exactly the same way to all businesses, irrespective of their size or sector; it is only the notional interest rate applied as part of the allowance that would be higher for SMEs. SMEs would be defined as per Article 3 of the Accounting Directive[49]. In addition it would be required that for a company to be considered a SME, it must not be part of a group of businesses which, at consolidated level, exceeds at least two of the three limits[50] under the Accounting Directive.

The application of an increased notional interest rate for SMEs would have to be implemented in all Member States. There should be no discretion on the part of Member States as to whether to apply a higher rate for SMEs or what rate to apply as the top-up for SMEs in order to avoid selectivity concerns as regards EU State Aids rules and to ensure a level playing field for SMEs in the EU regardless of their place of residence.

5.5. Treatment of loss-making companies and option for benefit carry-forward

Loss making companies do not pay corporate income taxes. They can thus not profit from an allowance on equity. Similarly, the reduction of interest deduction as proposed in option 4 and 5 would not hurt a loss-making company, since there is not taxable income from which to deduct. In order to assure that companies can profit from the full ten years of equity allowance, it could be considered to grant a carry-forward for the allowance so that companies can carry forward the unused allowance through loss-making years. Such a benefit carry forward could be applied for a specific number of tax years or ad infinitum.

[49] Directive 2013/34/EU of the European Parliament and of the Council of 26 June 2013.
[50] Average number of employees in the fiscal year of 250; net turnover of EUR 40 million; balance sheet total of EUR 20 million.

In case of losses, the loss of year t will appear in retained earnings of year t+1 which will negatively affect the base of the allowance leading to a taxable allowance. However, this allowance will only actually be taxed when the company is making profits again and after all the losses brought forward from previous exercises have been offset by profits.

A provision could be included in the legal draft stating that the taxable allowance shall not apply if the taxpayer provides sufficient evidence that the negative allowance base is due to losses and does not come from the distribution of profits used to benefit a second time from the deduction of the allowance on equity without a genuine increase of equity.

5.6. Grandfathering of existing allowances for equity

There are currently six Member States that have an allowance for equity in place. In order to mitigate the negative effects on businesses of a sudden change in the equity allowance regime in place in these countries, the DEBRA would allow for a grandfathering for those companies that have already benefitted from an equity allowance under the regimes in place at the time that the EU Directive's comes into force.

5.7. Options discarded at an early stage

This impact assessment considers all possible means of addressing the debt-equity bias, and various designs in some cases, among the policy options for consideration and analysis.

The only option that was discarded ex-ante is the option of a soft-law approach. Previous experience with recommendations in the direct taxation field have demonstrated that such soft law does not lead to a harmonised approach being taken across Member States

Given the sensitivities around the field of taxation, a general recommendation to address the debt-equity bias would most likely not ensure a common set of anti-abuse rules, nor a homogeneous treatment of the key building blocks of such an initiative (base of the allowance, notional interest rate, number of years the allowance is granted, possible carves-out). Even if all Member States were incentivised to take action, a differentiated approach on critical design elements would instead contribute to even more fragmentation of the single market.

The Code of Conduct Group ("the Code") already considered and assessed notional interest deduction regimes and published Guidance on the issue in 2019. This guidance provides views on a preferred approach in relation to a number of critical questions regarding the anti-abuse framework and presents a non-exhaustive list of elements and characteristics which indicate that a Notional Interest Deduction Regime may be harmful when assessed against the criteria of the Code of Conduct.

Despite the existence of these assessments and Guidance issued at EU level, the six national measures currently in force across the EU differ significantly and segment the common market. In particular, the Guidance did not lead to a general adoption by

Member States of a harmonised anti-abuse framework for NIDs. The Code guidance focusses on ways to avoid that notional interest deduction (NID) regimes are abused and prescribes that NID regimes should have certain limitations in scope and be properly constrained by appropriate anti-abuse measures to make them less vulnerable to aggressive tax planning. The objective of fighting tax avoidance is generally shared and well supported by Member States; but even on such non-controversial and limited aspects of design, the guidance of the Code did not manage to lead to a holistic or common approach by Member States.

This lack of action following on soft-law guidance, or the divergence in approach where action was taken, is precisely why the Commission has not considered another soft law measure among the current policy options. Such approach was considered but discarded in view of the fact that it did not provide sufficient impetus for a harmonised approach to address the challenge at hand.

It was, therefore, considered more appropriate to take a more stable and harmonised approach to the tax debt equity bias at EU level.

6. WHAT ARE THE IMPACTS OF THE POLICY OPTIONS?

This section examines the different options to address the debt-equity bias in terms of effectiveness and efficiency. As discussed in Section 5, the available options are:

- An allowance for all corporate equity (ACE) (Option 1),
- An allowance for new corporate equity (ANCE) (Option 2),
- An allowance for corporate capital (ACC) (Option 3),
- Non-deductibility of interest payments (NDI) (Option 4),
- An allowance for new equity coupled with a reduction of interest deductibility (Option 5)

Several methods are used to analyse the impacts of the different policy options, namely desk research, stakeholder feedback through a public consultation and individual meetings, discussions with Member State, own calculations, and the use of the CORTAX computable general equilibrium (CGE) model, provided by the JRC, to assess macroeconomic impacts. The options are not expected to have environmental impacts.

6.1. Data limitations and methodological short-comings

The observable quantity, which should be impacted by the debt-equity bias, is the debt-equity ratio. In most EU Member States the debt-equity ratio was exceptionally high around the time of the great recession (ca. 2007-2010) and has gone down since. This might, to some extent, be driven by a reduction of CIT rates, lower interest rates, newly introduced thin capitalisation rules (debt-equity ratio rules and interest limitation rules), and other regulations aimed at increasing equity of companies after the financial crisis.

It is very difficult to exactly assess or identify how important the debt-equity bias is for debt-equity ratios, compared to other factors (international investment climate, stock

market performance, business cycle, interest rates, inflation etc.). These elements of finance and economy are intertwined. The studies discussed in Chapter 2 have established an empirical link between tax rates and levels of debt-leverage, this is however not enough to determine the importance of the debt-equity bias.

The analysis of DEBRA is supported by the CORTAX general equilibrium model run by the Joint Research Centre (JRC). In addition, two sources of data have been used to try to understand further empirical aspects of DEBRA: national financial account data and ORBIS company-level data.

CORTAX is a highly stylized general equilibrium model which will be further discussed in the next section. Economic modelling approaches like CORTAX mostly rely on standard assumptions of neoclassical economics with perfect markets and complete information. As a consequence there will always be a market clearing price for debt and equity which implies that no agents will be restricted in their choices. In reality we know that there are companies which are restricted in their financing choices because neither equity nor debt can be accessed.

While such assumptions are unproblematic when comparing different policy options and understanding their impact on the economy, they become relevant when exact predictions about specific policy choices are required. In other words, CORTAX is very useful to compare different policy options. It is however problematic to rely too heavily on the point estimates of CORTAX. In order to identify and overcome potential short-comings of the modelling approach and to complement the analysis, two alternative data sources are used: macro-data from national financial accounts and company level data from the ORBIS data-set. There are a number of problems also related to these data, which prevent a complete analysis of all policy design aspects of the policy options.

National financial accounts (NFAs) are an element of national accounting. NFAs contain aggregate information on equity, interest paid and interest received per sector of the economy. For the analysis of DEBRA there are however a few challenges. The category of equity in NFAs contains a few elements that would likely not qualify as equity under DERBA. In addition, equity is reported as the market value of traded and non-traded shares. The market value of shares might differ considerably from the book value of equity, which is the relevant base for the equity allowance. For interest payments, the aggregation means that relevant interest payments might be averaged out, whereas the interest limitation of option 4 or 5 would be applied to net interest payments, i.e. interest paid minus interest received. In the dataset, gross interest payments are about four times larger than net-interest payments.

ORBIS provides company level data. A major problem of ORBIS is, sample bias and incompleteness. ORBIS can consequently not be used to calculate absolute values (like the equity allowance costs in billion EUR) since only a fraction of companies is covered and the coverage differs across Member States. However, ORBIS can be used to analyse ratios, such as what share of benefits of an equity allowance on the company level are

balanced out by a loss in interest deductibility. Another data-limitation with ORBIS is that it does not have information about interest received but only about interest paid.

While CORTAX accounts for the behavioural adaptation of agents to changing relative prices, all estimates derived from ORBIS or national financial accounts are static, i.e. no growth effects can be considered.

6.2. The modelling approach with CORTAX

CORTAX is a highly stylized computable general equilibrium model, designed to evaluate the effects of corporate tax reforms in the 27 EU Member States. The model assumes optimal behaviour of all agents and each country is assumed to have the same structure in terms of consumption, savings, production and public finances (though the data are country-specific). Countries are linked via international trade in goods markets, intermediate goods markets and investment by multinationals. The model also includes the EU's main trading partners. Results are provided at the country level reporting changes in tax rates, tax revenues, investment, employment, wages and GDP. CORTAX is a single sector model excluding the possibility of sectorial analysis. There is no time in the model and changes have to be interpreted as change between the old equilibrium pathway and the new equilibrium pathway.

The estimations with CORTAX are performed with two different approaches. The first approach is a compensated approach where changes in the effective tax rates due to the policy are compensated with commensurate changes in statutory corporate income tax rates so as to assure revenue neutrality. The second approach is an uncompensated approach where statutory tax rates remain unchanged. On top of the structural effects of the measure driving the results in the compensated approach, the uncompensated approach thus also accounts for budgetary implications.

While policy option 4 has no parameters, all other policy options could assume alternative parameter values for the risk premium (and thus the notional interest rate) and in the case of option 5 for the level of interest limitation. In order to compare the structural characteristics of the policy options it is assume that the policy options entailing an allowance for equity would have a notional interest rate (NIR) of 2.2% on average, applied for all types of businesses. When considering policy options with an SME top-up, the NIR is 2.5% on average. These values are derived from the ECB's Survey on the access to finance of enterprises (SAFE). Separate analysis have been conducted for member state specific NIRs and an EU wide NIR. The intermittent case of currency specific NIRs provides results strictly in between those two extreme cases. Ceteris paribus the Member State specific NIRs indicate on average lower impacts than a currency specific or EU-wide NIRs. In order to simplify the presentation and to provide a conservative lower-bound estimate for effects, the analysis of Chapter 6 is based on Member State specific NIRs. Annex 5.1. provides further details.

The risk free rate at the time of analysis was about 0.2%, implying an assumed risk premium for the analysis of 2%. The complexity of the analysis (with at least eight

different calibrations required for each option[51]) makes it impossible to fully explore the parameter space for alternative values of the risk premium or NIR. To understand the structural implications of the different options it is important to compare options with the same NIR. For the comparison of options any viable NIR could be used since the relative performance of the options would not change when the NIR (or risk premium) is changed[52].

Option 5 proposes an allowance for equity as in Option 2 in combination with a proportional limitation of interest deduction by 25% in order to mitigate budgetary impacts. The level of interest limitation (25%) is chosen so as to assure fiscal neutrality of option 5 on average in the dynamic modelling context of CORTAX. ATAD 1 also includes an interest limitation rule (ILR) which provides a minimal provision to limit the deductibility of net interest expenses to 30% of EBITDA with a safe harbour of EUR 3 million[53]. While there are issues of data availability, which make it very difficult to perform a detailed analysis of ILRs, some preliminary analysis suggest that very few companies are captured under the ATAD 1 ILR. Since the companies currently falling under ATAD 1 are already restricted in their deductibility, these companies would not provide new resources to compensate for the equity allowance, when falling under the proportional ILR of option 5 instead. Further details on the estimates are provided in Annex 6. CORTAX does not explicitly model ATAD 1 ILRs. Given the very limited impact on the revenue generating potential of a proportional ILR under option 5, it is however argued that this omission does not bias overall estimates.

Loss-making companies are not paying taxes and are thus not affected by any of the options. CORTAX accounts for loss-making companies and includes the country-specific share of loss-making companies in its calibration.

For the purpose of this impact assessment, average EU values of the estimates will be reported. CORTAX however is calibrated at the country level and estimates impacts at the country level. There is considerable heterogeneity across Member States in terms of debt-equity ratios and financing conditions. For the compensated approach the model arrived at corner solutions for some policy options when including an SME top-up (Scenario 2) in some countries. In that situation the model could not provide results, because there was no valid change in the CIT rate which could compensate for the budgetary impact, i.e. the CIT rate required to compensate the tax revenue losses would have been larger than 100%. The comparison of policy options for Scenario 2 is thus incomplete. It will however become clear in the following that CORTAX provides a consistent ranking of policy options across approaches and scenarios. The level of the point estimates changes contingent on the approach (compensated/uncompensated) and scenario (Scenario 1/Scenario 2), the resulting ranking of policy options however stays

[51] Calibrations for no-SME top-up / SME top-up, single EU NIR / MS specific NIR and compensated / uncompensated approach would be required resulting 2*2*2=8 calibrations.
[52] Note that option 4, which fully disallows interest deductibility does not depend on the NIR.
[53] The interest limitation rules currently in place in each Member State are summarized in Table A7.2 in Annex 7. Some empirical analysis is presented in Annex 6.1.

the same. As would be expected, the macroeconomic impacts on investment, employment, wages and growth, reported by the model are smallest for the compensated approach without an SME top-up and highest for the uncompensated approach with a rate top-up for SMEs. The CORTAX model is further discussed in Annex 4. Annex 5 provides complementary results.

6.3. Impacts on debt bias and financing decisions of firms

A multiplicity of factors influence a company's capital structure. Firm level factors named in the literature are, e.g. the degree of specialization, the extent of R&D activity, firm size, firm profitability, firm growth, tax shield and earning volatility (e.g. Titman and Wessels (1988) and Marodi and Paulet (2019)). Time and firm effects seem to explain the largest share of heterogeneity while sector and country effects play a smaller role (Kayo and Kimura 2011). Specific reasons for the choice of debt could be the desire to increase the return on equity, because access to equity financing is limited, because debt financing is cheaper than equity financing (especially when interest rates are low), to diversify risk, to reduce tax liabilities, and to avoid the dilution of control/voting rights of existing equity holders (owners). However, such reasons do not diminish or negate the fact that a differentiated tax treatment of equity and debt exists, and that this has an impact on companies' financing choices. This tax-induced debt-equity bias is the focus of the present measure. This implies that other reason for companies to choose debt over equity will remain unaffected after the measure is implemented, some degree of debt bias might thus exist also ex-post. The relative importance of the different factors is not understood[54].

It is important to note that the tax debt-equity bias only operates through taxes on income. Loss-making companies have negative income and are thus not taxed. There is accordingly no tax bias present for loss-making companies. Especially start-ups and young and innovative companies tend to be loss-making. Due to their risk structure they need to rely on equity financing. As long as such companies are loss making, they cannot profit form the equity allowance, since no taxes are paid. Without the possibility to carry forward the allowance, the company could lose the equity allowance if it remains loss-making for the full duration the allowance is granted. If instead the allowance can be carried forward, the company will always be entitled for the equity allowance for the full duration of the allowance.

To analyse the economic impacts of the debt-equity bias, the cost of capital concept is used as an indicator to express the financing costs of a company for different sources of financing (the cost of capital concept is explained in detail in Annex 4). As long as the cost of capital for debt is lower than for equity, also due to differential tax treatment, a

[54] As discussed in Chapter 2, academic research has established a causal link between the CIT rate and changes in observed debt-equity ratios. Since however does not provide an indication how important the tax induced debt-equity bias is compared to other factors which might drive companies towards debt.

debt bias persists. Only in the ideal case where the deductibility of debt is equal to the deductibility of equity would the tax system be neutral with regard to financing decision.

A study by ZEW (2016a) analyses the impact of various tax reforms on the cost of capital to address the debt-equity bias[55]. The reforms simulate revenue neutrality to avoid that results are driven by changes in the overall tax burden. It further shows that both Option 1 (ACE) and Option 3 (ACC) mitigate the debt bias and strongly reduce the tax-induced distortions of financing decisions by largely equalising the cost of capital of debt-financed and equity-financed investments. Option 4 also equalises the tax treatment of debt and equity, with the consequence however that the cost of capital for debt and thus the effective tax rate for businesses increases. The increase in effective tax rates has in most situations a detrimental effect on investment activity. Option 2, an allowance for new equity is not analysed in this study. There are, however, the real world examples of Belgium, Cyprus, Italy, Poland and Portugal, which have implemented an ANCE-style measure as laid out in Option 2 and which have been recently analysed with the cost of capital approach (ZEW 2020)[56]. The cost of capital calculations for given notional interest rates have been depicted in Table 1 in Section 2. It becomes obvious that in most ANCE systems based on standard definitions of equity, the debt-equity bias gets smaller as the notional interest rate approaches the nominal interest rate prevalent in the economy. The study further shows that if those two rates are equal, the debt-equity bias could be fully eliminated. The approach to the notional interest rate suggested in this impact assessment (Section 5) would mitigate the existing debt-equity bias to ensure that the tax system provides for a neutralisation of businesses' financing options.

The introduction of a notional allowance for equity in Belgium in 2006, and in Italy in 2011, offer the possibility to assess empirically the effect of such allowances on businesses' debt leverage, since sufficient time has passed to collect, analyse and publish related data. The first Belgian systems, which resembled the ACE (Option 1) was based on the stock of equity and an anti-avoidance framework, although the way certain tax planning opportunities were addressed was considered incomplete (e.g. Zangari, 2014). Since 2018, only incremental changes in equity are the basis for a notional interest deduction in Belgium and the anti-abuse framework has been reinforced. The Italian system was based on incremental equity from the beginning and has a relatively complete anti-avoidance framework. It thus resembles more closely Option 2 analysed in this impact assessment, i.e. an allowance for new corporate equity (ANCE).

For Belgium, a number of studies find a reduction in debt leverage (i.e., the use of debt) of non-financial Belgian firms after the introduction of the ACE[57]. Schepens (2015) finds

[55] The concept of cost of capital is explained in Annex 4.
[56] The respective cases are discussed in ZEW (2020) Section B.8, B.9, B.11, B.12 and B.14. Malta also has introduce an allowance on equity, which however resembles more an ACE than and ANCE. An overview over existing tax allowances for equity is provided in Annex 6. Note that the equity definition in existing measures also includes profits and losses, contrary to Option 1 and 2.
[57] See for example Princen (2012), aus dem Moore (2014), Panier et al. (2015), Hebous and Ruf (2017) and De Mooji et al. (2018).

similar effects for the financial sector. For Italy, Panteghini et al. (2012) find evidence of a significant decrease in the leverage of firms following the introduction of the ANCE. This is confirmed by Branzoli and Caiumi (2020) which show that the reduction of debt leverage from an incremental ACE would be more pronounced for older and smaller businesses. In addition, the impact of the ANCE would higher for more vulnerable and risky firms. Together these results confirm that an incremental ACE would be an effective policy tool to reduce the debt leverage ratios of European enterprises. As no country has yet applied any of the other options (options 3, 4, 5), there is no empirical evidence on their effects available.

The simulations with CORTAX, based on an average notional interest of 2.2% and discussed in more detail below, indicate that all options would indeed reduce the debt leverage of firms. Table 3 reports the estimated changes in the share of debt-financed assets in the EU. The debt share in the model before implementing a policy is 46.4%. All policy options result in a notable reduction in the debt share. The estimated reduction is 2.3 to 3.2 percentage points in the case of the ACE (Option 1), 0.8 to 1.6 percentage points in the case of the ANCE (Option 2), 2.8 to 3.5 percentage points in the case of the ACC (Option 3) and up to 5.5 percentage points for Option 4. With Option 5, the debt share would be reduced by 3.03 to 3.27 percentage points.

Table 3. Change in EU average debt share (in percentage points)

		compensated	**uncompensated**
Option 1	ACE based on standard equity	-2.29	-3.23
Option 2	ANCE based on standard equity	-0.83	-1.55
Option 3	ACC	-2.76	-3.48
Option 4	NDI	-5.50	-5.49
Option 5	ANCE + partial NDI	-3.03	-3.27

Source: Joint Research Centre of the European Commission (2021).
Note: Estimates are based on the assumption of equal treatment of all businesses (no SME top-up).

The potential of options 1, 2 and 5 to mitigate the debt-equity bias, is driven by the choice of the notional interest rate. To fully mitigate the debt-equity bias, the NIR would need to equate cost of equity with the cost of debt. Since the cost of debt differs across companies, the NIR chosen will always be an approximation. For the choice of the NIR, other constraints, like e.g. fiscal considerations also play a role. This relates to the discussion on the appropriate choice of the risk premium above. Option 3 will equate the tax treatment of debt and equity by definition. The notional interest rate will however determine the extent to which the measure would actually limit the use of debt.

Another important policy variable for the potential of an equity allowance to mitigate the debt-equity bias is the duration the allowance is granted. For Option 1 and 3, the duration is per definition unlimited, since the allowance is granted for all equity or all capital. For Option 2 and 5 however the duration could be limited. Generally, a longer duration would increase the extent the debt-equity bias is mitigated.

6.4. Impacts on investment and growth

In order to separate the structural impact of the policy options from their budgetary impact, policy options need to be analysed under the assumption of budget neutrality. The model achieves CIT revenue neutrality by adapting CIT rates. It is important to keep in mind that DEBRA does not touch upon the question of CIT rates. The compensated approach, where CIT rates are appropriately adapted, just serves for analytical purposes.

The macroeconomic impacts of the five potential policy options for Scenario 1 (where all businesses are treated equally), are summarised in Table 4 below. Compensated results are presented, which ensure corporate income tax revenue neutrality of the respective policy option by adjusting the CIT rate accordingly.[58] The first variable *CIT rate* reports the average change to the CIT rates that has been implemented to achieve revenue neutrality. The *cost of capital* captures the change in percentage points of total cost of capital, i.e. cost of capital for debt and cost of capital for equity. *Investment* reports the change in total capital stock as a percent of GDP. The *share of debt-financed assets* is reported in levels ex-post, i.e. after the implementation of the measure. Ex-ante the debt-share is reported as 46.4%. *Wages* report the percentage change of the average wage rate. *Employment* reports the percentage change of total employment. *GDP* finally reports the impact on GDP.

The results for Scenario 1 indicate that an ACC (Option 3) has the most positive macroeconomic effects with investment increasing by 5.1% of GDP and GDP increasing by 1.8%. The ACE (Option 1) would result in investment increases of 4.9% of GDP and GDP growth of 1.7%. For the ANCE (Option 2), an investment increase of 1.4% of GDP and a rise in GDP of 0.47% are estimated. The combined approach of equity allowance and limited interest deduction, proposed as Option 5, would increase investments by 0.26% of GDP and GDP by 0.018%. Policy option 4, of fully disallowing deductibility of interest payments, would instead reduce investments by 1.9% of GDP and result in a contraction of the economy by 0.79% of GDP.

Table 4: Economy-wide impacts of budget-neutral debt bias reforms; Scenario 1 – equal treatment of all businesses; GDP-weighted EU-27 average

	(1) ACE	(2) ANCE	(3) ACC	(4) NDI	(5) ANCE + partial NDI
CIT rate (change in percentage points)	6.013	3.093	5.728	-7.168	0.551
Cost of capital (change in percentage points)	-0.349	-0.114	-0.4	0.127	-0.042
Investment (change in % of GDP)	4.881	1.4	5.065	-1.92	0.261

[58] Note that tax revenue neutrality is an ex-ante characteristic. This means that CIT rates are adapted so that the tax revenue loss would be fully compensated, if no behavioural adaptation of economic agents would take place. Since both the policy option implemented and the CIT rate change induce behavioural changes, it is impossible to assure ex-post revenue neutrality.

Share of debt-financed total assets (level, ex-post)	44.12	45.58	43.65	40.91	43.39
Wages (change in %)	1.727	0.465	1.764	-0.476	0.153
Employment (change in %)	0.379	0.07	0.43	-0.338	-0.11
GDP (change in %)	1.727	0.474	1.795	-0.789	0.018

Source: Joint Research Centre of the European Commission (2021).

Ranking the policy options from the most positive to most negative impacts on investment and GDP, we obtain: (3) > (1) > (2) > (5) > (4). A similar ranking can also be observed for employment, wages or the cost of capital. For Option 3, the increase in employment and wages would be highest, with the largest reduction in costs of capital. On the other extreme, Option 4 would lead to the strongest decline in employment and wages, and increase the cost of capital[59].

If the assumption of budget neutrality is discarded and instead uncompensated results are analysed, the same ranking of policy options can be observed, albeit at a higher level. The allowance for corporate capital (Option 3) would result in GDP growth of 2.4% while non-deductibility of interest (Option 4) would result in economic contraction of -3.3%. The full set of results for this case is presented in Table A5.1 in Annex 5.

Under Scenario 2 with a risk-permium top-up for SMEs, the risk premium for SMEs would be 50% higher than for other businesses. As can be inferred from Table 5 below, the rate top-up for SMEs has additional growth effects on investment, employment and GDP. Since under Option 4 there are no allowances, a rate a top-up for SMEs is not relevant for this option. The way the SME rate top-up shifts estimates up, can be observed in the uncompensated results from comparison of Tables A5.1 and A5.3 in Annex 5.

CORTAX could not provide solutions for a SME top-up under the two "extreme" options for an allowance for equity, Option 1 for all corporate equity and Option 3 for all corporate capital[60]. The ranking among options however remains valid: (2) > (5) > (4).

Table 5: Economy-wide impacts of budget-neutral debt bias reforms; Scenario 2 – higher notional interest rate for SMEs; GDP-weighted EU-27 average

	(1) ACE	(2) ANCE	(3) ACC	(4) NDI	(5) ANCE + partial NDI
CIT rate (change in percentage points)	n.a.	3.426	n.a.	-7.168	0.874
Cost of capital (change in percentage points)	n.a.	-0.107	n.a.	0.127	-0.033
Investment (change in % of GDP)	n.a.	1.546	n.a.	-1.92	0.361

[59] Results for a restricted equity definition are presented in Annex 5.2.
[60] Compensated results could not be computed since the CIT rate increase required to compensate for CIT revenue losses would result in a CIT rate larger than 100% for several countries, which of course is not possible.

Share of debt-financed total assets (level, ex-post)	n.a.	45.48	n.a.	40.91	43.26
Wages (change in %)	n.a.	0.521	n.a.	-0.476	0.193
Employment (change in %)	n.a.	0.069	n.a.	-0.338	-0.113
GDP (change in %)	n.a.	0.52	n.a.	-0.789	0.048

Source: Joint Research Centre of the European Commission (2021).

If the assumption of CIT revenue neutrality is lifted, the application of a single notional interest rate across the EU together with a rate top-up for SMEs results in a further upward-shift of the results. In such a situation, Option 5 would no longer exhibit negative employment effects but would indeed result in higher employment and higher wages. It is specific to Option 5 that the overall economic impact is determined by the correct calibration between the allowance for equity and the reduction in interest deductibility[61].

While a top-up for SMEs seems justified on the grounds that SMEs face higher burdens to acquire new equity and higher financing costs, it could be argued that such a rate top-up might result in disincentives for companies to grow beyond a certain size. The moment a company has grown sufficiently to not qualify as a SME any more, it would lose the rate-top up and thus part of the notional allowance on equity. This argument is more important for policy options which grant a permanent allowance (options 1 and 3). Since the notional allowance for Option 2 and Option 5 could be limited in its duration, it seems that the advantage of growth like economies of scale and economies of scope together with increasing market shares would outweigh any disincentive created by a reduction in the notional allowance. The disincentive would be small in any case since the proposed top-up is limited (0.5 percentage points).

The negative impact of full non-deductibility of interest (Option 4) on investment and growth is further confirmed by the IMF (2016) and also by the analysis of effective tax rates conducted by ZEW (2016a).

The experience of some Member States with notional interest deductions for equity have provided the opportunity for an empirical analysis of the impacts of these policies. Regarding investment in the context of the Belgian ACE (first version similar to Option 1a), Moore (2014b) finds "highly significant and robust estimates that correspond to an increase in investment activity by small and medium-sized firms of about 3 percent in response to the ACE reform". Hebous and Ruf (2017) find no effect on production investment from multinational affiliates, which are the focus of their study. Zangari (2014) concludes that while the Belgian ACE has possibly benefitted investment by SMEs, multinationals seem to have used the ACE mostly as a tax-planning device. He stresses the weaknesses of the anti-avoidance framework of the Belgian ACE as opposed to the Italian system, where no similar effect has been reported. The fact that the Belgian ACE was initially granted on the already existing stock of a company's equity implied a

[61] Uncompensated results, which do not implement revenue neutrality, are presented in Annex 5, Tables A5.1 to A5.4.

windfall gain for businesses, without any impact on investment decisions or their financing source. For Italy, Zeli (2018) finds a positive impact of the Italian measure (similar to Option 2) on investments.

The magnitude of economic impacts of options 1, 2, 3 and 5 depend on the notional interest (NIR), (or risk premium) chosen. Higher levels of NIR (risk premium) will result in lower effective tax rates for companies and thus induce more investment and growth. The same applies to the duration of the allowance for option 2 and 5. A longer allowance would increase the positive economic impacts. For options 1, 2, 3, and 5 it can be generalized that a higher allowance would result in more positive economic impacts and in more negative impacts on the fiscal position of governments.

For Option 5, the economic impacts also depend on the extent that interest deductions would be restricted. A more pronounced restriction of interest deductibility would increase effective tax rates for corporations and would thus dampen investments and growth. The CORTAX modelling results suggest that a proper calibration between the allowance and the reduction in interest deduction for Option 5 (i.e. a notional interest rate of 2.2% combined with a reduction of interest deductibility by 25%) can achieve a solid economic impact at comparatively low fiscal costs.

6.5. Impacts on tax revenue

An empirical assessment of revenue impacts for options 3, 4 and 5 are not available since they have not been implemented so far. Regarding the revenue impact of measures like the Belgium one before its revision (similar to the ACE, Option 1), De Mooij (2012) finds a potential decrease in the tax base and tax collection for advanced economies of on average about 15%, i.e. 0.49% of GDP respectively. For Italy (similar to ANCE, Option 2), Zangari (2014) finds modest revenue losses of 1.3% of actual CIT revenues for 2011. This is due to contextual factors and the short time since the introduction of the measure. In the long run, Zangari sees much higher revenue losses possible. Since the Italian system calculates new equity based on a fixed reference year, over time the measure will resemble more an allowance on the stock of equity. De Mooij and Devereux (2011) simulated a hypothetical reduction of CIT revenues of up to 50%. Disallowing the deduction of interest payments as considered under Option 4 (NDI) would likely have a positive impact on tax revenues. The option has never been implemented, so no empirical data is available. There are in any case two countervailing effects. On the one hand the reduction in investment and the contraction of the economy would reduce CIT revenues and other tax revenues. On the other hand, expenses for interest payments could no longer be deducted from the corporate income tax base, increasing the tax base and thus tax revenues. Given that the value of non-financial corporate debt in the EU almost equals the value of GDP, it seems likely that overall CIT revenues would increase.

The CORTAX model also allows for an assessment of revenue impacts of the debt bias mitigating reforms. Since DEBRA does not propose any changes to CIT rates, the tax revenue impact will be analysed using the unconsolidated approach, where CIT rates are kept constant. Table 6 reports estimated revenue impacts on CIT revenues and total tax

revenues. It becomes obvious that Option 3, which had the most positive economic impact, comes with the highest fiscal costs. In a situation with no SME top-up, CIT revenues are reduced by 1.16% of GDP, total tax revenues decrease by 0.13% of GDP. The revenue losses would be even more pronounced with an SME rate top-up. The decrease in CIT revenues is partly offset by an increase in other tax revenues (mainly value added taxes and personal income taxes). For 2021, Eurostat reports GDP for EU-27 of EUR 14,448 billion (i.e. EUR 14.4 trillion). Expressed in 2021 values, CIT revenues would thus be reduced by EUR 167.6 billion while overall tax revenues would be reduced by EUR 18.8 billion.

Table 6: Revenue impacts of debt bias reforms with and without SME top up – uncompensated approach – GDP-weighted EU-27 average

Scenario		(1) ACE	(2) ANCE	(3) ACC	(4) NDI	(5) ANCE + partial NDI
(1) Without SME top-up						
	CIT revenue	-1.128	-0.472	-1.16	1.701	-0.001
	Total tax revenue	-0.116	-0.038	-0.129	0.348	0.076
(2) With SME top-up						
	CIT revenue	-1.237	-0.515	-1.237	1.701	-0.044
	Total tax revenue	-0.128	-0.04	-0.128	0.348	0.075

Source: Joint Research Centre of the European Commission (2021).
Note: All simulations are changes expressed in % of GDP compared to the baseline scenario.

Full disallowance of interest deduction (Option 4) leads to increases of CIT revenues by 1.7% of GDP and an increase in total tax revenues by 0.35% of GDP[62]. Since no equity allowance is granted, the rate top-up for SMEs does not affect Option 4.

In the case without (with) an SME rate top-up, the combination of allowance and restricted interest deduction under Option 5 results in CIT revenue losses of -.001% (-0.044%) of GDP and an increase of all tax revenues of up to 0.076% (0.075%) of GDP. Expressed in 2021 terms, this would amount to CIT losses of EUR 0.14 (6.4) billion and overall tax revenue increases of EUR 11 (10.8) billion. Overall tax revenues increase due to GDP growth and resulting additional tax revenues in other taxes[63]. The comparatively low budgetary impact of this measure results from the combination of two measures which together balance the debt-equity bias simultaneously from the debt and equity side, thus also balancing budgetary impacts.

[62] Assuming 2021 values this would amount to a CIT revenue increase of EUR 245.6 billion and overall tax revenue increase of EUR 50.6 billion.
[63] In the CORTAX model growth materialises mechanically from the reduction of the cost of capital. In a world with many exogenous risks to growth, a static perspective might help to draw up a more cautious picture. This is further discussed in Chapter 8 and Annex 6.

Regarding alternative parameter values, a higher NIR (higher risk premium) would generally result in more positive economic impacts, while the budgetary costs for Member States would generally be higher. A higher NIR (risk premium) will be more costly for options 1, 2, 3 and 5. An allowance granted for a longer duration in options 2 and 5 would also increase the fiscal impact. A more biting restriction of interest deduction in Option 5 would reduce the fiscal burden.

6.6. Impact on the administrative burden for businesses

The total compliance costs for businesses result from one-off implementation costs and recurrent administrative costs. Options 1, 2, 3 and 5 would introduce a tax allowance for equity financing. The measure is not mandatory and businesses will make use of this opportunity if they have an equity increase for a given financial period and if their tax savings are larger than related compliance costs. From an administrative point of view, the tax allowance for equity will be automatically calculated by the software used for filing the Corporate Income Tax (CIT) declaration[64]. Such software is usually made available free of charge by the national tax authorities that also bear the cost for its update. Hence, there are no one-off costs for businesses.

Recurrent compliance costs for the proposed measure are determined by the amount and format of information that needs to be computed and transmitted to tax authorities. Businesses that want to use the tax allowance shall indicate the equity amount in the relevant section in their Corporate Income Tax declaration. Furthermore, they are also expected to provide additional information to the tax authorities to comply with the specific anti-abuse measures. Based on the experience from the six Member States with a tax allowance for equity in place, required information is limited. Information that needs to be provided is the amount of equity and how it is made available (transfer, cash, in kind….), intra-group participations, intra-group loans. Most of this information is generally already included in company balance sheets which are transmitted to tax authorities. Each Member State will request such information in the best way according to their national tax system. This could be, for example, an additional section in the annual tax declaration or a separate form to be annexed to their CIT declaration. Unfortunately, quantitative estimations of these costs are not available. However, they are expected to be negligible or very low because the number of information items to be transmitted is limited and the points needed are all already collected for other purposes. Moreover, although not quantifiable, multinational companies will benefit from cost savings stemming from the harmonisation of the existing fragmented national measures on a tax allowance for equity.

[64] According to the 2021 study "Tax compliance cost for SMEs" commissioned by EASME, less than 5% of SMEs file the Corporate Income Tax declaration not electronically (it can be assumed that the percentage is close to zero for large enterprises). Link to 2021 version added once the study is officially published.

In the case of policy option 4, the deductibility of interest payments would be disallowed. This would considerably reduce the administrative burden for businesses since interest limitation rules would become obsolete and all related compliance work would be eliminated/unnecessary.

In absolute terms compliance costs are similar for all companies. In relative terms smaller companies have higher compliance costs since tax administration exhibits economies of scale. A higher NIR (or risk premium) for SMEs would partly compensate them for relatively higher compliance costs.

6.7. Impact on the administrative burden for tax authorities

Independent of the actual policy option chosen, implementation of the proposed measure would entail an update of the relevant software used for filling CIT declarations. It should be noted that the software for the tax declaration is nevertheless updated every year and the additional burden stemming from the proposal could be considered negligible. The two main sources of increased administration costs might result from the training for tax inspectors and necessary enforcement efforts, i.e. the tax audit of companies that will apply for the specific allowance for equity.

The potential introduction of an interest limitation rule as outlined under Option 5 is not expected to have an impact on enforcement costs since such rule is already in place under the ATAD 1[65]. Even if the interest limitation rule were implemented through another legal instrument, the principle is already well known to tax administrations.

The application of the anti-abuse framework[66] may generate additional enforcement costs in Options 1, 2, 3 and 5 compared to a no-action scenario and the non-deductibility of interest (Option 4), the application of ACE (Options 1), ANCE (Option 2) ACC (Option 3) and Option 5 could increase the burden of tax administrations for enforcement. But these extra costs are difficult to quantify. This is because the administrative burden will depend on the anti-abuse framework that will be retained in the proposal and on the frequency of controls decided by each Member State. Generally speaking, the specific anti-abuse measures will entail a learning process before application while the general rule will follow the same principles as the General anti-abuse rules already in place for other tax measures. The additional efforts that will be required for auditing companies will depend on the nature of the specific anti-abuse measures implemented. However, these extra audit costs must be put in perspective vis-a-vis the fairness objectives, as the consequences of not implementing this measures could lead to tax revenue losses that largely exceed these extra audit costs.

[65] As provided for by the Anti Tax Avoidance Directive 1

[66] The anti-tax abuse framework for DEBRA will propose a set of Specific Anti Abuse Rules –to address specific abuse and a General Anti Abuse Rule that ensure a second line of defence against new schemes that might appear in the future (see also section 5.3.3)

According to the experience from the countries that currently have an allowance for equity, a very broad estimation for the additional enforcement cost depends on the complexity of the corporate structure and can go from EUR 27.5 (i.e., one hour) for a SME (or company with simple corporate structure) to EUR 110 (i.e., four hours) for a multinational enterprise with subsidiaries across the EU. However, tax audits would not likely be performed every year and the exact costs will depend on the organisation of the national administrations (DEBRA audit performed at central level vs. by local tax auditors) and resources of each Member States' tax authority.

6.8. Fairness impacts

The design of the measure to address the debt-equity bias is crucial for the impacts on fairness. Past experience with notional interest deduction regimes has shown that failure to address the tax planning opportunities when designing such measure could create the risk of international groups exploiting the measure for aggressive tax planning purposes.

Policy measures that provide allowances for equity have been criticised because of the tax planning opportunities[67] they can theoretically open up in the form of cascading of the deductions on the same initial capital if no proper anti-avoidance rules are in place. To avoid such cascading, there is a need to make sure that the same euro of capital invested in the group receives tax deductibility only once[68]. This is achieved by embedding an anti-avoidance framework into the proposal. Such provisions will ensure that the funds injected in a group benefit from deductibility only once. As such, the system would remove those loopholes used for aggressive tax planning.

Specific rules to make the system robust to tax planning will include a general anti-abuse rule (GAAR) and specific anti-abuse rules that will exclude, amongst others, items that do not represent business needs or genuine investment, as well as participations and own shares.

6.9. Sustainable Development Goals

By mitigating the debt-equity bias, DEBRA is expected to promote equity investment and thus innovation – particularly in the green and digital fields. It is also expected to reduce reliance on debt, which leads to greater leverage and can have negative economic or financial consequences, consequently reducing the risk of systemic crises and fostering economic growth. These positive effects are in line with the targets set out by the United Nations' Sustainable Development Goals (SDG). More specifically, DEBRA may contribute directly to SDG 8 – "Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all"; and SDG 9 – "Build resilient infrastructure, promote inclusive and sustainable industrialization and

[67] For the Belgian ACE, Hebous and Ruf (2015) find indications for the use of such tax planning strategies.
[68] Zangari (2014) discusses the Belgian and Italian ACE systems and the role of anti-avoidance provisions targeting intra-group transactions.

foster innovation". Further detail on how DEBRA may contribute to these goals is laid down in Annex 3.

7. HOW DO THE OPTIONS COMPARE?

All policy options would increase the **neutrality of the tax system with respect to financing decisions** when compared to the status quo, and in that respect meet the primary objective of the policy initiative. That said, the objective is met to varying degrees by each of the five policy options considered. Options 3 (ACC), 4 (NDI) and 5 (ANCE+ partial NDI) are most successful in reducing the debt share in the economy, while options 1 (ACE) and 2 (ANCE) reduce the use of debt to a lesser extent since the notional interest rate does not fully equalise the cost of equity with the cost of debt. Option 3 equalises the tax treatment of equity and debt since both are deducted using the same notional interest rate. Option 4 goes farthest in neutralising the impact of tax systems on financing decisions by eliminating the very tax treatment that currently introduces the debt-equity bias. However, there are strong reasons why this policy option still fares worst among those under consideration, as evidenced in the remainder of this chapter below. Policy option 5 tackles the debt-equity bias simultaneously from the debt and equity side and, in so doing, achieves to almost completely eliminate the debt-equity bias, as evidenced by a steep decline in the debt share in the economy.

The **fairness of the tax system** is to some extent improved by all policy options. The policy options involving the introduction of a notional allowance for equity (options 1, 2, 3, 5) improve the fairness of the tax system in several ways: firstly, a harmonisation of the allowance for equity rules across Member States would level the playing field among competitors in the single market. Secondly, a top-up for SMEs (included in all options, except option 4 which totally suppresses the deductibility of interests) would ensure that SMEs can also access more easily the equity market. Thirdly, a unified measure would reduce the opportunities for using equity allowances for aggressive tax planning purposes and avoiding taxation. Tax avoidance is further mitigated by the introduction of a solid anti-abuse framework. The anti-abuse framework is part of these four policy options, so that on the equity side no single option is more conducive than the others to achieving tax fairness. The disallowance of the deductibility of interest on debt as outlined in Option 4 would eliminate unequal tax treatment of debt and equity across the internal market. However, investors have based their investment decisions in the past on the tax effect of the debt bias. From a tax certainty perspective, the question would therefore arise as to how to treat existing debt. It could be envisaged to grandfather existing debt, excluding its possible refinancing. The full disallowance of interest deduction, however, would introduce a problem of double economic taxation since interest earnings are taxed. This would in practice imply that the financial sector is excluded from the measure. In terms of tax fairness, Option 5 stands out compared to all the other options. In addition to the arguments related to the notional interest allowance already discussed, Option 5 would further limit the deductibility of interest payments and, in so doing, also reduce opportunities for profit shifting using intra-group loans, which would add to the fairness of the tax system. As for the other options, a top-up for SMEs in option 5 would

compensate for the higher risk born by investors in SMEs and facilitate access to equity financing.

In view of tax fairness considerations, it should be noted that the Code of Conduct guidance on Notional Interest Deduction regimes[69] clearly recommends to use an incremental NID (as in options 2 and 5) instead of a stock-based one (as in option 1) to reduce potential abuse of the regime. An allowance on new equity has also been identified as the most suitable option to tackle the debt-equity bias by a majority of the respondents to the public consultation. The application of a top-up for SMEs would have to be implemented in all Member States and at the same rate in all Member States to avoid selectivity concerns as regards EU State Aids rules and to ensure a level playing field for SMEs in the EU regardless of their place of residence.

The **distortions in the single market** would be substantially reduced by any EU wide-rule compared to a situation in which only a subset of Member States operate unilateral measures for reducing the debt-equity bias. Cross-border investment decisions are influenced by the co-existence of different national systems of tax allowances for equity financing as well as by the fact that the majority of Member States do not accommodate debt-bias alleviating measures. Policy options 1, 2, 3 and 5 would thus be equally suited to achieve this objective. As for the disallowance of the deductibility of interest on debt under option 4, the option would harmonise an EU wide approach to mitigate the influence of tax systems on financing decisions. Any potential benefit of EU-wide harmonisation would, however, need to be weighed against the potential risk of introducing major distortions for the EU when compared to its international partners. Fully disregarding the tax deductibility of interests paid on debt is associated with the non-taxation of interest received and could result in major distortions between the EU and the rest of the world. Unilateral implementation of such a measure by the EU could require new international agreements on the taxation of interest payments in order to prevent double taxation or non-taxation of interest incomes. In particular, it would force Member States to renegotiate their Double Tax Treaties in order to make them compatible with the new tax treatment of interests paid and received in the EU. It would create mismatches between the tax treatment of interest paid and received between the EU and the rest of the world and, in so-doing, would de facto open up new loopholes for tax planning opportunities. It could also have negative effects in terms of the EU single market's business competitiveness vis-a-vis other jurisdictions where this deductibility remains in place.

As demonstrated in the impact analysis in Chapter 6, the policy options will have differentiated **impact on investment and growth**. If there were fewer distortions in the single market, resources would be allocated in a more appropriate and efficient manner, which would improve economic efficiency. At the same time, an allowance on equity generally reduces effective tax rates and would have positive incentive effects. Against such considerations, the first three policy options would be expected to have a direct

[69] WK 11093/2019 REV 1 of 17 October 2019, *Draft Guidance on notional interest deduction regimes*

positive effect, with the ACC (Option 3) assessed to have the largest economic impact, followed by the ACE (Option 1) and ANCE (Option 2). However, as options 1 and 3 would provide for an allowance for all equity, they would also create a deadweight loss effect, allowing for tax deduction without necessary new investments. An allowance for new equity (as outlined in options 2 and 5), on the other hand, would provide economic benefits while avoiding deadweight loss effects. Policy option 4 would increase effective marginal tax rates for businesses, and thus be expected to lead to a reduction in investment and a contraction of the economy. The benefit of an EU-wide approach under Option 4 would be further diminished by introducing international distortions: whereas the EU would no longer allow for a debt interest deduction, such measures would continue to exist in other major international jurisdictions, creating a potential disincentive to invest in the EU. Policy option 5 would be expected to have a slightly positive impact on investment, while also being effective in reducing the debt share. However, as it would limit interest deductions to some extent compared to the status quo, option 5 would also counteract investment incentives, such that it has a lesser positive effect compared to option 2. Option 5 will be coherent with other EU rules such as the Anti-Tax Avoidance Directive with its interest limitation rule and Growth and Employments goals, achieving growth while preserving the fiscal balance of the Member States.

Investment and growth are closely linked with the **competitiveness of the EU,** with competitiveness being both a prerequisite for investment and growth as well as a result of it. The structural effect of closing the debt-equity bias will generally have a positive effect on EU competitiveness. The specific effect of each option is driven by each option's impact on effective taxation. The stock based allowances under options 1 and 3 provide large reductions in the tax base and thus considerably reduce effective taxation. This has positive effects on the EU's competitiveness globally. The ANCE under option 2 has a more limited effect. Given that option 5 combines the allowance for equity with partial limitation of interest deduction, the two measures balance out such that effective taxation largely remains unchanged and the effect on competitiveness is overall neutral. A full disallowance of interest deduction, as proposed under option 4, would considerably increase effective taxation of businesses to the detriment of EU competitiveness in the global economy.

On the back of the COVID-19 crisis, all policy options under consideration have also to be weighed against their **possible budgetary impact and thus effects on fiscal sustainability**, which represents a direct link to their macroeconomic impact. On average, it is true for all options that more positive economic impacts come with higher budgetary costs, and/or overall lower tax revenues. In a post-crisis period with already high existing debt levels, and needs for fiscal consolidation to come in the future, tax policy measures that risk to substantially or even partially reduce revenues or increase budgetary costs for Member States must be carefully considered.

A stock-based notional interest deduction like the ACE under Option 1 or the ACC under Option 3 would result in substantial fiscal costs. The allowance base is much larger

compared to incremental allowances proposed under Options 2 and 5. In addition, stock based allowances are by design of unlimited duration[70], while the duration of incremental allowances can be limited, which by default limits the costs related to introducing and maintaining the measure. An incremental notional interest deduction like the one provided for under options 2 and 5 is not associated with the windfall effect of a regime based on the stock of equity, since it only allows deductibility of an increase in equity. In this respect, Option 3 appears to be less efficient than option 2 and 5.

Policy option 4 – which would fully disallow the deductibility of interest on debt – would perhaps fare best in this respect, as removing the deductibility of interest on debt would increase tax revenues (which are otherwise currently foregone) and have overall positive budgetary implications for Member States. On the whole, however, this option raises a number of vital issues that outweigh this potential benefit. Fully disallowing the tax deduction on debt interest is efficient in eliminating the debt bias, but increases effective tax rates for businesses and has negative effects on growth and employment, driven by depressed investment. As a consequence, this option would substantially hinder the post-crisis recovery. The IMF has confirmed the negative investment impacts of full non-deductibility of interest expenses (IMF 2016). Moreover, a unilateral implementation of such a measure at the EU level could create substantial distortions with the rest of the world since new international agreements on the taxation of interest payments would be required in order to prevent double taxation of interest incomes.[71] This option is considered by a large majority of respondents to the public consultation as being the least suitable option, 3 respondents out of 67 considered this option as the most suitable. Considered against the objective to preserve growth and employment, the option 4 appears to be the less effective.

By combining an allowance for new equity with a limitation of the existing interest deduction, Option 5 would prevent the negative impact on Member States' budgets and might even result in moderate tax revenue increases. This option would address the debt-equity bias while at the same time potentially provide for new tax revenues and thus help balance the overall budgetary impact. It would have a positive impact on investments and GDP. If the allowance for equity is sufficiently generous, positive employment effects could also be observed[72]. Option 5 appears to be effective in mitigating the debt equity bias, maintaining the fiscal capacity of the Member States and preserving growth and employment. This triple effectiveness is only achieved by this option, while options 3 and 4 score high on mitigating the debt-equity bias but low on maintaining the fiscal capacity of Member States and preserving growth and employment. Similarly, options 1 and 2 do poorly on maintaining the fiscal capacity of member States.

Coherence of EU action would be best ensured by option 5 which contributes to reinforcing equity-financing, particularly needed with the green and digital transition,

[70] The allowance ends when equity is equal to zero, that is when the company is liquidated or the accumulated losses equal capital + reserves.
[71] IMF (2016), Tax policy, leverage and macroeconomic stability.
[72] See Table A5.4 in Annex 5.

while enhancing EU growth and reinforcing EU tool kit against tax avoidance. Option 5 appears clearly the most efficient, decreasing the debt level while, increasing growth and employment and preserving the fiscal capacity of Member States. In terms of effectiveness, the decrease of the debt-equity bias has to be balanced by preserving the competitiveness of the EU market, which option 4 does not achieve, and the fiscal capacity of Member States, which options 1, 2 and 3 are threatening. So taking into account the three constrains of decreasing the debt-equity bias, improving growth and employment in the EU and preserving the fiscal capacity of the Member States, option 5 is the most effective.

All policy options would ease the **administrative burden of businesses** engaging in cross-border activities due to the harmonisation of equity allowances across Member States. The additional data to provide to benefit from the allowance in option 1, 2 and 5 is limited to new equity, which is easily available at company level. Option 4 would propose a full disallowance on interest deductions, making all interest limitation rules redundant. Option 4 would thus reduce the compliance burden for businesses more than the other options. The disallowance of interest payments under said option would also reduce the administrative burden for tax administrations since interest limitation rules become redundant and aggressive tax planning strategies based on profit shifting through intra group loans are made impossible in the EU. All other policy options would slightly add to the administrative burden of tax administrations. The additional burden however would be limited to one off set up costs and additional efforts when auditing tax payers.

Table 7 above summarises the discussion of this chapter.

Table 7: Assessment of impacts of debt-bias options

	(1) ACE	(2) ANCE	(3) ACC	(4) NDI	(5) ANCE +partial NDI
Making the tax system neutral for financing decision	+	+	+++	+++	++
Enhancing the fairness of the tax system					
- Reduce cross-border tax planning opportunities	+	+	+	++	++
- More level playing field for domestic and multinational businesses in the single market	+	+	+	0	+
Reducing distortions in the single market	+	+	+	+	+
Stimulating growth and investment in the EU					
- Impact on investment and growth	++	++	++	---	++
- Fiscal sustainability	--	-	-	+++	++
- Competitiveness of the EU economy	++	+	++	---	0
- Reduce the administrative burden for businesses	+	+	+	++	+
- Reduce the administrative burden for tax	-	-	-	+	-

	administrations

Source: European Commission
Note: The evaluation is based on a scale of five steps from very negative (- - -) to very positive (+++). "0" indicates no change (i.e. neutrality). A reduction in administrative burden generally results in lower related costs, '+' thus indicates cost savings while '-' indicates cost increases.

8. PREFERRED OPTION – THE ALLOWANCE ON NEW EQUITY WITH AN INTEREST LIMITATION

This impact assessment has analysed five policy options. The option that appears to meet all objectives and offer the best balance between fiscal costs and economic outcomes is option 5 (as outlined in section 5.2.5). This entails introducing a deductibility of equity costs in the form of an allowance for a notional interest on new equity (as in option 2) combined with a limitation of the deductibility of interest.

Option 5 is successful in addressing the debt-equity bias (the main objective of the measure), while balancing the budgetary impacts (a second objective) and addressing the fairness aspects of the tax system. It is expected to have a positive impact on investment and GDP, and moderate impacts on employment, depending on the final calibration of the equity allowance and reduction of interest deductibility.

Under Option 5, the allowance is granted on new equity over a duration of 10 years. A limit to the duration of the allowance prevents that the measure transforms, over time, into a stock-based allowance and will thus be less costly for Member States' public finances. Moreover, the 10 year period has been chosen to approximate the average maturity of debt. The allowance is computed based on the difference between net equity (defined as the difference between the equity of a taxpayer [paid-up capital + share premium account + reserves + profit or loss brought forward] and the tax value of its participation in the capital of associated enterprises and own shares) at the end of the tax year and net equity at the end of the previous tax year, multiplied by the relevant notional interest rate. In case of a net equity decrease, an amount equal to the allowance equity base decrease multiplied by the notional interest rate would become taxable. This ensures that the equity is not reduced after the 10 year allowance period but then re-increased the year after strictly to benefit from a new 10-year period of deduction without any genuine equity increase.

The notional interest rate (NIR) is defined as the risk free rate (RFR) plus a fixed top up:
$NIR = RFR + x$ (RFR is the risk free interest rate and x the risk premium)

A currency specific notional interest rate is chosen since the risk-free interest rate strongly depends on the currency, because of characteristics like inflation and central bank policy. Accordingly, the RFR relevant for a given tax year will be the 10-year risk-free-rate published in December of the previous tax year by the European Insurance and Occupation Pensions Authority (EIOPA) for the relevant currency. The preferred option applies a risk premium of 1% for larger companies and 1.5% for SMEs.

Loss-making companies are not paying taxes. They can thus not profit from the equity allowance. The legal proposal will encompass the possibility to carry forward the allowance that cannot be used in loss making years so that ultimately every company which has increased its equity can profit from the related equity allowance for the full duration of 10 years.

The allowance for equity is combined with a reduction of the tax deductibility of debt-related interest payments. This will be achieved by limiting the interest deduction proportionally for all companies by a fixed percentage of net interest expenses (interest paid minus interest received) through a dedicated article in the DEBRA Directive.

In order to properly balance the equity allowance, a reduction of interest deductibility by 15% is chosen[73]. The preferred option thus applies a risk premium of 1% for large firms, a risk premium of 1.5% for SMEs and an interest limitation of 15% for all firms. These parameters have been determined following a comprehensive analysis of the impacts on the initiative's complementary and conflicting objectives. The selected parameter values simultaneously mitigate the debt-equity bias on both the equity and debt side and account for the uncertainty underlying the quantitative predictions.

The economic analysis in Chapter 6 compared the policy options with alternative parameter values. It was assumed that the notional interest rate would be 2.2% for all different types of allowances (options 1, 2, 3, 5). This resulted from a RFR at the time of about 0.2% and a risk premium of 2%[74]. The interest limitation for option 5 was set to 25% of net interest expenses, in order to balance the fiscal costs of the equity allowance. In CORTAX, additional investments and growth mechanically lead to overall tax revenue increases. Further analysis, based on national financial account data and supplemented by ORBIS data, has revealed that in a static context, these policy parameters might result in a substantial financing gap.

In order to further consider this potential fiscal gap, let's call the original calibration with 2.2% NIR (2% risk premium), SME-top-up and 25% ILR alternative 5a. The preferred option with a risk premium of 1%, an SME top-up and only 15% ILR should instead be nominated as alternative 5b. A detailed comparison of alternative 5b with alternative 5a (2.2%/2.7% NIR and 25% ILR) is provided in Annex 6.2.[75]

Table 8 reports the financing gap in billion EUR that could result for given policy alternatives and scenarios in a static approach. The brackets report the share of fiscal costs of the equity allowance which would be compensated by higher tax revenues due to the interest limitation rule in the specific context. These values rest on a number of assumptions and bear considerable uncertainty (see Annex 6.2 for details). They

[73] As was the case in the economic analysis of Chapter 6, the level of interest limitation is again chosen so as to equilibrate the fiscal impact in an dynamic context as modelled by CORTAX.
[74] As mentioned earlier, the application of the same notional interest rate is more important to compare options than the actual level of the notional interest rate.
[75] Alternative 5b is not included in the analysis of Section 6 since it is paramount to compare the different policy options with identical parameter values.

demonstrate that the relative share of revenue losses covered is similar for both options. However, in absolute terms the potential financing gap of alternative 5a is more than twice as large as for alternative 5b.

Table 8: Financing gap in billion EUR (share of equity costs covered in %)

	Pessimistic	**Optimistic**
Alternative 5a	43.6 (4.3%)	23.1 (19.0%)
Alternative 5b	21.6 (5.1%)	11 (22.8%)

This potential financing gap in the static approach highlights the importance of economic growth for the CORTAX results. If in an uncertain environment effective tax rate reductions and lower costs of equity do not mechanically translate into more investments due to exogenous reasons like a war, drought or other major disruptions, CORTAX results might be too optimistic about the revenue impacts of alternatives 5a and 5b.

While it is inherently difficult to disentangle the effect of the equity allowance from the effect of the interest limitation rule, different model runs of CORTAX can be used to develop some preliminary understanding of the issue. It seems that the notional interest rate has a stronger effect on the reduction of the debt shares compared to the interest limitation rule. This is another argument for the rate top-up for SMEs. Secondly, there is a complementarity between the NIR and the ILR, i.e. a change in one variable is more impactful with a higher level of the other variable. This is further discussed in Annex 6.3.

A grandfathering of existing equity allowance regimes would also be allowed for those Member States where such regimes exist in order to mitigate the possible negative impact on businesses that have availed themselves of these regimes to date.

The measure will apply to all sectors[76] except financial corporations for the reasons explained in chapter 5. The reason for this is that an equity allowance combined with an interest limitation have very different impacts on financial companies (FCs) and non-financial companies (NFCs). FCs usually have more interest received than interest paid. Therefore, the interest limitation would not apply for them since the basis (interest paid-interest received) would be negative. This means that NFCs would finance the allowance on equity of the FCs. Moreover, FCs are subject to regulation on their capitalisation, which means that the issue of under capitalisation is addressed in another way.

It will encompass a strong anti-tax abuse framework to address possible abuses and harmful tax practices. A set of Specific Anti Abuse Rules (SAARs) – inspired from the Guidance on notional interest deduction regimes adopted in 2019 by the Code of Conduct will address the well-known existing schemes (e.g., cascading within a group, acquisition of businesses held by associated enterprises…) while the General Anti Abuse Rule (GAAR) included in the ATAD 1 will ensure a second line of defence against new schemes that might appear in the future.

[76] Financial corporations are excluded from the scope of DEBRA.

9. HOW WILL ACTUAL IMPACTS BE MONITORED AND EVALUATED?

Progress towards achieving the objectives of the initiative will be monitored and evaluated. This is particularly important, first, in order to verify that key design features, such as the choice of the allowance base, the notional interest rate and the interest limitation rule remain appropriate to pursue the objective of mitigating the debt-equity bias in the EU. Second, in the case of DEBRA, the effective application of the anti-tax abuse framework across all Member States is a key element of the measure in order to prevent loopholes that leave room for harmful tax practices. Monitoring will be an incentive for Member States to actively implement and properly enforce the anti-tax abuse framework that will come with the measure. In this context, monitoring should cover:

1. Reporting by Member States on the evolution of the debt/equity ratio at national level.
2. Reporting by Member States on the annual budget cost connected to equity allowance under DEBRA as well as on tax revenues from such beneficiaries.
3. Reporting by Member States on the total sum of net interest expenses that are relevant for the interest limitation. In addition annual revenues connected to interest limitation under DEBRA should be reported.
4. Reporting of data by Member States on the implementation of the anti-tax abuse framework, both at administrative and Court levels.
5. Public reporting by the Commission on its assessment of the effect of the implementation of the measure on the debt-equity bias across the EU and on the efficiency of application of the anti-tax abuse framework Member States by Member States.

The data to be collected from Member States will depend on the content of the adopted measure, but should include the following:

1. Number of taxpayers that have benefited from the allowance on equity in the tax year as compared to the total number of taxpayers in scope of this directive in accordance with Article 2.
2. Number of small and medium enterprises (SMEs) that have benefitted from the allowance in the tax year as compared to total number of SMEs registered in the Member State
3. Total amount allocated to the allowance as compared to the national gross domestic product.
4. Total amount of exceeding borrowing costs (i.e. interest paid minus interest received) summed over all companies.
5. Total amount of non-deductible exceeding borrowing costs.
6. Number of taxpayers to which measures from the anti-tax abuse framework of DEBRA were applied and a description of tax consequences and sanctions linked to this.
7. Data on the evolution of the debt/equity ratio in the meaning of Annex III, letters a) and c) of Directive 2013/34/EU.

The Commission will review the situation in the Member States regularly and publish a report. The monitoring framework will be subject to further adjustments in accordance with the final legal and implementation requirements and timeline.

Five years after the implementation of the allowance, the Commission plans to evaluate the results of this policy initiative on tackling debt/equity bias and effectively applying the anti-tax abuse framework as well as the overall impact on tax revenues, businesses and the internal market. In this context, data will be collected from both the business and Member States. In this context the Commission should consider whether the design of key elements of the initiative, including in particular the notional interest rate and the calculation of the allowance base, remain pertinent to achieve the objectives pursued.

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ANNEX 1: PROCEDURAL INFORMATION

1. Lead DG, Decide Planning/CWP references

The lead Directorate General is the Directorate General for Taxation and the Customs Union (DG TAXUD).

This initiative is supported by the following political agreements:

- Agenda Planning: Debt Equity Bias Reduction Allowance (DEBRA) (PLAN/2021/10435)

- Inception Impact Assessment: Debt Equity Bias Reduction Allowance (DEBRA) (Ref. Ares(2021)3879996)

- The initiative was announced in the Communication on Business Taxation for the 21st Century, COM(2021) 251 final.

2. Organisation and timing

The work for this initiative was launched in April 2021. An Inter-Service Steering Group was established and chaired by the Secretariat General. The following Directorates General were invited to the Inter-Service Steering Group (ISSG): BUDG, CNECT, COMM, COMP, ECFIN, EEAS, ESTAT, FISMA, GROW, INPTA, JRC, JUST, SJ, OLAF, TRADE.

The Inter-Service Steering Group met four times to discuss the file. Meetings of the steering group took place on, 2 June 2021, 12 July 2021, 30 September 2021, 11 November 2021 and 3 February 2022. In addition to the meetings of the Inter-Service Steering Group, DG TAXUD met regularly and repeatedly in bilateral meetings with representatives of the following Directorates General to discuss the analysis in the impact assessment, the design of options, and legal issues: COMP, FISMA, GROW, JRC.

3. Consultation of the RSB

The Impact Assessment report was scrutinized by the Regulatory Scrutiny Board and discussed in the relevant meeting on 16 March 2022. In the opinion dated 18/03/2022, the Regulatory Scrutiny Board outlined recommendations which were integrated in the impact assessment. The main changes to the document are summarized in Table A1.

Table A1: Scrutiny by the Regulatory Scrutiny Board

RSB comments	Actions taken
(1) The report does not sufficiently take into account other determinants of debt-equity choices beyond the debt-equity tax bias. It does not set out the different	• The report has been amended to provide a more comprehensive picture of the determinants for choosing debt or equity financing.

situations in Member States and their views of the problem.	• The context of the different Member States and potential motivations for adopting an allowance for equity are now discussed in greater detail
(2) The report does not sufficiently describe the composition of the proposed options. It does not explain and analyse the choices on different option elements, in particular, equity definitions, determining the notional interest rate and interest limitation rules.	• The description of the options has been clarified and the arguments for specific choices of option elements have been clarified. • The available analytical toolset is now employed to provide a comprehensive analysis of the design elements and clarify implied trade-offs. Those trade-offs ultimately have no analytical solution and require value judgments (political decisions).
(3) It does not present in a clear, analytical manner how the options compare in terms of effectiveness, efficiency and coherence. It does not sufficiently justify the preferred option and explain to what extent it achieves the objectives. It does not contain the specific calibrations of the preferred options.	• The comparative discussion of the options has been amended and their relative impact in terms of effectiveness, efficiency and coherence has been clarified. • The preferred option has been justified in greater detail. It is further explained how the preferred option strikes a desirable balance between conflicting objectives. • Calibrations approximating the preferred options have been included in the report.
RSB requests for improvement	**Actions taken**
(1) The report should discuss how this proposal interacts and complements existing and ongoing EU and international initiatives. It should describe in more detail the initiative's coherence with the upcoming Business in Europe: Framework for Income Taxation. It should outline how this initiative relates to previous experience of addressing the debt-equity bias, in particular the 2016 Proposal for a Common Consolidated Corporate Tax Base. It should provide a better overview of how this initiative relates to existing and ongoing initiatives from third countries.	• The initiative has been more clearly embedded in the existing EU and international context and the relationship with other relevant initiative in the EU and in third countries is discussed in greater detail. • Also, previous experiences of addressing the debt-equity bias, especially in relation to the Common Consolidated Corporate Tax Base are now better reflected in the report.
(2) When analysing the problem, the report should give a broader picture of the relevant factors contributing to the debt-equity bias and outline all relevant parameters influencing the financing decisions of a company. This should also be reflected in the baseline and the impact	• The report has been amended to provide a more comprehensive picture of determinants underlying financing decisions and the choice of specific sources of capital. • The discussion of the drivers of the debt-equity bias has been deepened and

analysis. At the same time, both in the dynamic baseline and in the impact analysis, the report should outline how other macro-economic policies may affect debt-equity financing decisions, even when the proposed measures against tax debt-equity bias will be introduced. In particular, the report should explain how higher interest rates may affect debt-equity ratios. It should also better present the rationale behind the heterogeneity of Member States' approaches for addressing (or not addressing) the debt-equity bias.	also outlines now potential influences of macro-economic developments. Especially the ambivalent impact of rising interest rates is better analysed. • The report now discusses more clearly the context of the different Member States and potential motivations for adopting or not an allowance for equity.
(3) The report should further develop the description of the options and better illustrate what the available choices are. The report should be clearer at what stage and how key elements such as notional interest rate and the interest limitation rules are to be decided and implemented. It should better discuss the feasibility of the options (in particular the option on non-deductibility of interest payment).	• The options have been more clearly described and relevant policy choices have been highlighted. • It has been clarified in the report that notional interest rate and the interest limitation rules are central design elements of the preferred option. • The discussion of mayor problems related to specific options and thus their feasibility has been extended.
(4) The report should strengthen the impact analysis. It should clarify to what extent the effects on equity investment can be determined distinguishing between reduction of debt versus increases in equity. It should clearly present the macroeconomic impacts, in particular on tax revenues. It should also provide more context on how a reduced debt-equity bias would affect young companies such as start-ups and distinguish between effects on profitable versus unprofitable companies. Furthermore, the impact section should clearly illustrate the ex post and ex ante dimensions of the debt-equity bias.	• The impact analysis has been amended and methodological limitations of the analytical tools have been clarified. While no comprehensive analysis of the differential impact of equity allowance and interest limitation is possible, there are some indications that changes in the notional interest rate are more impactful than changes in the interest limitation rule. • The economic impact on young and innovative companies as well as unprofitable companies has been more explicitly analysed. • Following the introduction of a more comprehensive description of financing choices beyond the tax induced debt-equity bias, it has now been made clear that the initiative can only mitigate the debt bias induced by taxation and that also with the measure there might be other reasons why (some) companies prefer debt over equity.
(5) The report should compare the options in a clear, analytical and well-structured manner in terms of effectiveness, efficiency and coherence. The report	• The discussion of the options has been clarified and the comparison of the options in terms of effectiveness, efficiency and coherence has been

should better justify the choice of the preferred option, and strengthen the link between the objectives, options and impacts. It should also better justify and explain how the preferred option overall best meets the all of the general and specific objectives. The report should include the full evidence base and analysis necessary to determine the specific calibrations of the preferred options. It should present the different costs and benefits of the available calibration choices.	amended. • The advantages of the preferred option are presented more clearly and in greater detail. It is further explained how the preferred option strikes a desirable balance between conflicting objectives. • Calibrations approximating the preferred option have been included in the report in addition to calibrations comparing all policy options.
(6) The report should better include and describe diverging stakeholder views throughout the main report and annexes.	• Stakeholder views and points of agreement and divergence between stakeholder groups have been described in more detail in the report and the relevant annex.

4. Evidence, sources and quality

The evidence base for this impact assessment report is based on various different sources:

• Studies on the debt-equity bias, including work by the IMF, the OECD and leading academics as referenced in the Reference List.

• Modelling by the European Commission's Joint Research Centre based the CORTAX model.

• Feedback on the open public consultation, as summarized in the synopsis report in Annex 2.

• Exchanges with additional stakeholders through the Platform for Tax Good Governance and with the European Economic and Social Committee (EESC).

• Further exchanges with additional stakeholders on an ad-hoc basis.

• Desk research and quantitative analysis using Bureau van Dijk Orbis database, ESTAT Statistics, ECB statistics, OECD statistics and the International Survey on Revenue Administration (ISORA), powered by the IMF's Revenue Administration Fiscal information tool (RA-FIT).

ANNEX 2: STAKEHOLDER CONSULTATION

A broad set of activities have taken place to obtain detailed stakeholder feedback.

- **Inception Impact Assessment**: Feedback from seven stakeholders was uploaded in Have-your-say from 14/06/2021 to 12/07/2021: one investment group, five business association (one of which from UK), one polish citizen.
- **Public consultation** from 1/07/2021 until 7/10/2021. Overall, 67 responses were received: 37 business associations mainly representing financial organisations of all sizes (including SME), 12 companies/business organisations (mostly tax accountant and financial organisations), 3 academic and research institutions , 8 NGOs or others (mostly chamber of commerce, stock exchanges)) and 7 individual citizen. Most respondents came from either Belgium (14/67), Germany (14/67) or France (12/67). A total of 30 position papers have been uploaded.
- Bilateral meetings with business associations.
- Meeting with national public authorities/agencies, business associations and civil society groups participating to the Commission Expert Group "Platform for Tax Good Governance, Aggressive Tax Planning and Double Taxation".
- Meeting with the European Economic and Social Committee (EESC).

1. Summary of feedback to the Inception Impact Assessment

Feedback was provided by one investment group, five business association (one of which from UK), one polish citizen

The investment group, and four business associations, are generally in favor of the introduction of an effective system intended to reduce the tax bias of indebtedness. On the other hands, an UK business organization considers that the different tax treatment of payments made to equity investors and to lenders is justified by the fundamental difference between equity and debt investments. They doubt that the cost for an allowance for equity investment can be justified by its likely economic benefits. There are already extensive rules to combat excessive and tax-driven use of debt, and no evidence has been provided to suggest that these are inadequate. The Danish Chamber of Commerce welcomed the uniform treatment of debt and equity for tax purposes but suggests to lower the corporation tax or abolish it altogether, as the corporation tax is the most productivity-limiting tax. According to the citizen the current low rates of credits and loans do not indicate the need to intervene in this market by reducing the indebtedness of entrepreneurs.

The financial organisation and the five business associations (including UK based association) do not support measures that would result in either disallowing or penalising the deductibility of interest payments. They consider that an intervention in this sense "would increase the cost of capital, reduce investment and inflict lasting damage on the European economy, especially in the post-pandemic context"

The four business associations and the financial organisation support the approach to create an allowance for equity by enabling the tax deductibility of notional interest for equity. They also (cumulatively) put forward the following opinions: the preference for a mechanism inspired by effective systems already adopted, such as the one in force in Italy (based on the "ACE" mechanism - Allowance for Corporate Equity); the suggestion to include in the proposal measures for alleviating existing constraints on equity issuance (indeed, the choice between equity and debt is not made by companies solely because of tax reasons for instance, for example, equity has significant governance implications); the support for a special measure for SME that typically find it more difficult than more mature companies to find financing; the importance to design effective anti-abuse measures

Finally, the financial organisation suggests a deduction of notional interest on new equity capital of companies since it is the only measure who would effectively encourage new investments in equity.

2. Summary of meeting with EESC

In preparation of the opinion an expert group was held where several experts provided feedback and comments on the DEBRA initiative. During the plenary meeting EESC confirmed the view already expressed in the opinion on the Communication on Business Taxation for the 21st Century[77]. "The EESC welcomes the initiative of the Commission to create a Debt Equity Bias Reduction Allowance (DEBRA). Investments in new greener technology are connected with a high risk for the investor. In such situations, equity financing is particularly important and the inherent bias against equity financing built into the tax systems needs to be addressed."[78]

3. Summary of the open public consultation

While overall responses provide a mixed picture, the majority of business associations and corporations **(which represent a majority of respondents)** see an EU wide measure as preferable to country-specific approaches. Similarly for the view that an allowance for equity would support the economic recovery from the COVID-19 health crisis and help businesses with cross-border activities in the single market. An allowance on equity is markedly preferred to a disallowance of interest deductions or an identical notional interest deduction for debt and equity alike.

Responses from five NGOs (mostly chamber of commerce and tax accountants) are more heterogeneous than those from the business community. An NGO has provided a position paper and in principle agrees with the problem of the debt-equity bias but cautions on fiscal impacts. Also, it requests from the Commission to precisely calculate the impact of an allowance on equity on effective tax rates across EU Member States.

[77] COM/2021/251, https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52021DC0251
[78] ECO/558-EESC-2021, https://www.eesc.europa.eu/en/our-work/opinions-information-reports/opinions

They quote an audit company with the claim that Malta's statutory CIT rate of 35% is reduced to 3.5% due to the NID implemented.

Three responses have been received from academic and research institutions. Research institutions have also provided position papers with a detailed analyses of the measure. While one provides a legal analysis and mostly agrees with the approach, another looks at the economic aspects. An academic has also voiced in a study meeting of the European Economic and Social Committee that he considers an EU action for an allowance on equity as problematic, since it does not account for the interaction between the income taxation of corporations and individuals.

The rational for an equity allowance

The answers provided demonstrate that most respondents (26/67) agree that high levels of debt make businesses more prone to insolvency, business associations agree to that assertion, while corporations strongly agree. For 17 of them there are no link and only 7 disagree. The same proportion of respondents (26/67) agree that debt levels are too high in SMEs and large non-financial enterprises. From the answers provided it is not clear whether respondents believe that such higher levels of debt are due to the lack of other financing options.

More than half of the respondents 34/67 tend to agree that access to equity is limited, especially corporations which strongly agree.

The vast majority of participants believe (42/67) that debt is used to finance investments because interest levels are low and therefore debt financing is cheap. Only 4/67 answers expressed disagreement or strong disagreement regarding this statement.

In general, respondents seem to agree that measures should be taken to encourage businesses to reduce debt financing and resort more to equity financing.

Indebtedness and financing decisions

Most respondents either agree (business association) or strongly agree (corporations, academics, NGOs and citizens) that non-financial businesses are more vulnerable to insolvency (49/67).

More respondents disagrees or strongly disagrees 26/67 that high levels of indebtedness make enterprises more profitable, than the ones who agree or strongly agree with such a statement (7/67). However a clear pattern is hard to assess in this context, due to the fact that 17/67 responded that they are neutral, while 17/67 did not answer or did not know the answer. A similar pattern of answers is to be noted for the following questions with around a **fourth of neutral and a fourth of no answers.**

The answers provided did not allow to assess the respondent's position on whether high levels of debt are due to lack of other financing options. On the one hand 21/67 of respondents agree or strongly agree with such a statement. On the other hand 17/67 disagree or strongly disagree that this is the case. It is also relevant to point out that 14/67

of respondents are neutral in this regard, and 15/67 did not answer or did not knew the answer to the question.

23/67 of respondents agree or strongly agree that debt levels of large non-financial enterprises are too high, while almost none of the respondents disagree (3 disagree, 0 strongly disagrees). Most of the respondents are either neutral (13/67), don't know (12/67) or did not answered the question (16/67).

Almost 40% (26/67) of respondents agree or strongly agree that SMEs have too much debt, while a very low number of respondents disagrees that debt levels of SMEs are too high (4 disagree, none strongly disagree. 20,9% (14/67) are neutral in this regard. Again around a quarter of the respondents did not respond to the question.

A number of respondents (9/67) believe that the ideal proportion would be 25%-50%.

28 out of 67 respondents agree or strongly agree that enterprises use finance investments to increase their return on equity. 11 respondents were neutral and 22 didn't answer

More than half of the respondents, especially among business organisations and corporations, 34/67 agree that their access to equity financing is limited or inexistent. Few respondents (4/67) disagree with such a statement. A total of 25/67 respondents were neutral, did not know the answer or did not answer.

The vast majority of participants believe (42/67) that debt is used to finance investments because interest levels are low and therefore debt financing is cheap. Only 4/67 answers expressed disagreement or strong disagreement regarding this statement.

The answers provided with regards to whether enterprises use debt to finance investments to diversify risk are not conclusive. More than 50% of the answers (39/67) are either "don't know" (6/67); "No answer" (18/67) or "neutral" (15/67). Regarding the remaining answers 16/67 respondents agree or strongly agree that debt financing is used to diversify risk against 12/67 respondents which disagree or strongly disagree with such statement.

There are more respondents, especially among business associations and corporations, who agree or strongly agree (21/67) that businesses used debt to reduce tax liabilities than the one that disagree or strongly disagree (14/67). However, there is a large part of respondents which either did not answer (15/67), did not know the answer (3/67), or were neutral (14/67) with regards to this statement.

More respondents that agree or strongly agree (24/67) that debt is used to avoid dilutions of voting rights of the main shareholders especially among business associations and corporations, than those who disagree (7/67). Neutral responses are about half of the positive answers (12/67). However there is a large part of respondents (24/67) did not provide an answer. If this results are disregarded, we reach the conclusion that more than 50% of the respondents that provided a concrete answer, agree or strongly agree that debt is preferred to avoid dilution of voting rights of their main shareholders (24/43).

Nine respondents have presented other reasons apart from those of the questionnaire.

Most respondents either agree or strongly agree that enterprises should be using less debt financing and more equity financing (41/67), among Business associations 25% strongly agree and 33% agree. There were further comments provided by respondents to sustain their answers.

EU wide measures versus national measures

More respondents ((26/67) disagreed or strongly disagreed that a national initiatives are preferable to EU initiatives because these can better targeted to the needs, among them 66% of academics and 33% of Business associations. 15/67 agreed with such statement, among them 20% of Business associations and 16/67 respondents either did not know or did not answer. 10/67 respondents were neutral in this regard.

An EU wide initiative is viewed as a useful tool to support economic recovery from the COVID-19 crisis, and to foster equity investment to a greener digitalized economy without creating distortions in the single market. EU wide measures were as also considered as being beneficial for business operating in the single market across countries. Respondents also agree that national tax debt-equity bias measures are a form of tax competition between countries, and that EU wide measures would reduce such tax competition between Member States.

Respondents are divided between those who are neutral 20/67 and those who agree that national legislation to tackle the tax debt-equity bias is creating barriers for enterprises to operate in the single market (21/67). A large part of respondents did not provide an answer or did not know (21/67).

From those who did provide an answer, there is clear agreement or strong agreement (32/67) that tax debt-equity bias measures are a form of tax competition between countries, among them 100% of academics, 71% of citizens, 58% of corporations and 28% of Business associations. Only a small number of respondents disagree (5/67) or are neutral in this regard (9/67). Almost a third of respondents did not provide an answer or did not know (21/67).

The answers provided demonstrate that more than half of the respondents (34/67) believe that an EU wide initiative to tackle the debt-equity bias, would be a useful tool to foster economic recovery and incentivize equity investments in the twin green and digital transitions, among them 100% of academics, 86% of citizens, 50% of corporations and 42% of Business associations. Only a residual amount of respondents have disagreed or strongly disagreed with such statement (6/67) or are neutral about the subject. A substantial amount of respondents did not provide an answer or did not knew the answer (21/67).

Respondents clearly agree that EU initiatives to reduce equity-debt bias would reduce tax competition between member states (27/67). Only 3 respondents disagree with such idea

while 9 are neutral. The amount of respondents that did not provide an answer or did not know the answer is substantial (28/67).

More respondents agree or strongly agree that EU measures to tackle the debt-equity bias would be beneficial for businesses (24/67), among them 71% of corporations, 66% of academics, 43% of citizens and 28% of Business associations, while some respondents are neutral (15/67) in this regard. A residual number disagrees or strongly disagrees. The amount of respondents that did not provide an answer or did not know the answer is relevant (24/67).

Most respondents strongly disagree that the debt-equity bias should be addressed at national level (26/67). Several respondents have not expressed their position (18/67) or did not know the answer (3/67). A relevant number of respondents are neutral in this regard (15/67).

A majority of respondents that provided an answer (while 18/67 did not provide an answer) disagree that there is no such thing as a debt-equity bias, and that an EU initiative which tackles the tax debt-equity bias is not necessary (34/67). There were also 10 respondents which were neutral in this regard.

Policy options

Note that the presentation of the policy options in the open public consultation differed from the presentation in this impact assessment[79]. According to the responses provided, participants believe that the best option to address the tax debt bias would be the implementation of an allowance on equity that provides for the deductibility of a notional interest on all equity (maintaining the existing interest deductibility). A second most suited option would be an allowance that provides for the deductibility of a notional interest on new equity.

Most respondents are against disallowing the deductibility of any financing costs as deductible expense as a way of tackling the debt-equity bias. 16 Respondents have provided further comments in this regard.

The large majority (48/67) of respondents answered that Option 1 - disallowing any financing costs as a deductible expense - is the least suited option, among them 75% of corporations, 72% of Business associations, 71% of citizens and 66% of academics.

Most respondents voted that Option 2 - an allowance on equity that provides for the deductibility of a notional interest on all equity (maintaining the existing interest deductibility) - would be the most suited option among them 57% of citizens, 50% of corporations, 39% of Business associations but 0% of academics. In the 4 level scale more than half of respondents have voted on 1 or 2 (40/67). Taking into consideration that 16 respondents did not answered the question, it is possible to conclude, that most

[79] Option 1 from the OPC is option 4 in the IA, Option 2 in the OPC is option 1 in the IA, option 3 in the OPC is option 2 in the IA and option 4 in the OPC is option 3 in the IA.

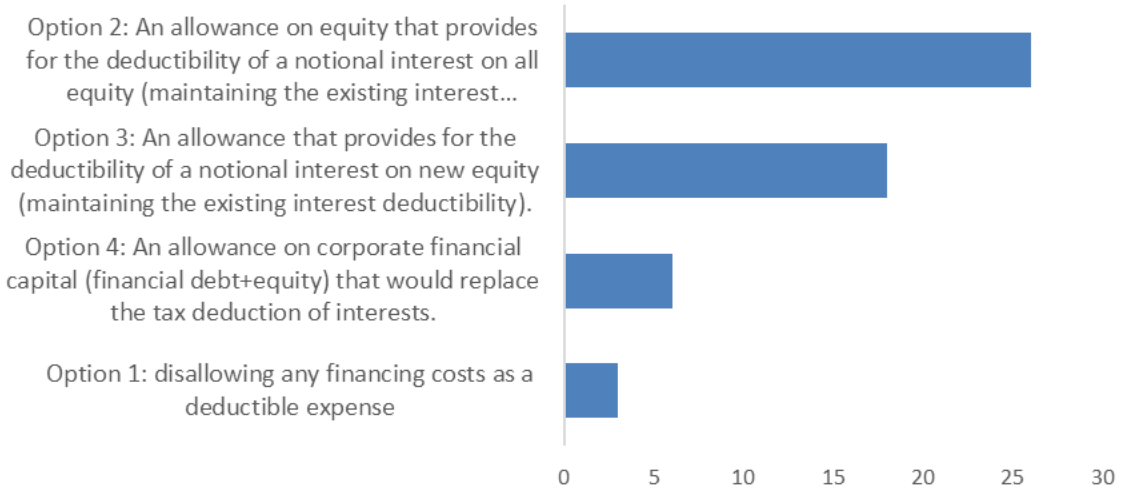
respondents that provided an answer agree that this is indeed the best or one of the best options.

Option 3 - an allowance that provides for the deductibility of a notional interest only on new equity (maintaining the existing interest deductibility - is considered a second best option after the allowance on equity for all equity, with most respondents (24/67) voting on 2 in the scale of 1 to 4. 18/67 have considered option 3 to be the best option, which corresponds more or less to the number of respondents that have considered Option 1 as the best option among them 66% of academics, 28% of Business associations, 25% of corporations and 14% of citizens. Once again 16/67 respondents did not answer the question.

On option 4 – an allowance on corporate financial capital (financial debt+equity) that would replace the tax deduction of interests - the majority of respondents have voted on rate 3 (29/67) or rate 4 (8/67). This means that option 3 elected as the third best option coming only before "Option 1 - Disallow any financing costs as deductible expense." It was considered the best option by 16% of corporations, 14% of citizens, 5% of Business associations but 0% of academics.

17/67 respondents did not respond to this question. See Figure A2.2. Several respondents have provided comments and added suggestions in this section.

Figure A2.2. Number of respondents that elected as the most suited option



Most of the respondents (31/67) agreed that the working definition of equity in line with the European System of Accounts 2010 (i.e. "equity is a financial asset that is a claim on the residual value of a corporation, after all other claims have been met") is useful. All of the 10 respondents that considered the definition as not useful have provided a suggestion to improve such definition. Almost half (26/67) of the respondents did not provide an answer to this question.

Notional interest scope and rate

Although the majority of respondents did not indicate how much the notional interest rate should be, 20 participants have provided further comments in this regard. The majority of respondents agree that a more generous rate should be provided to SMEs than the one provided to bigger businesses.

A large number respondents (37/67) did not provide an opinion The remaining respondents' answers point to a preference for a notional interest rate equal to the risk free interest rate + 3% (10/67) or higher (8/67). All other answers are disperse and do not allow to form a judgement.

The majority of responses agree or strongly agree that a more generous notional interest rate should be provided to SMEs (31/67) among them 100% of citizens, 50% of corporations, 36% of Business associations and 33% of academics. 8 respondents did know the answer and a high number of participants (18/67) did not answer the question. However, most respondents did not provide an answer (46/67) on much higher do you think the notional interest rate should be for SME compared to the notional interest rate applied to larger enterprises. From those that provided an answer are too disperse to show a clear pattern.

Anti-abuse measures

Respondents agree to a large extent that DEBRA's proposal should include anti-aggressive tax planning measures. Regarding what specific measures should be taken to reach such an objective, there is wide agreement that a general anti-abuse rule would be efficient in preventing the abuse of an allowance for equity for aggressive tax purposes. The exclusion of cascading through intra-group loans and loans involving associated enterprises was also supported by several respondents.

From the answers provided participants were against the exclusion of cash contribution in kind. It is relevant to point out that a large percentage of respondents did not give a concrete answer to the questions on the specific anti-abuse provisions.

A large number of respondents agrees that the proposal should include measures to prevent aggressive tax planning (33/67) among them 71% of citizens, 66% of academics, 42% of Business associations and 33% of corporations, and only 1/67 respondent disagrees with the implementation of such measures. 20/67 respondents did not answer or did not know the answer and a relevant number of respondents (13/67) was neutral in this regard.

A large part of respondents (30/67) agrees that a general anti-abuse provision that would deny notional deduction for operations carried out without any substantial economic purpose or carried out with related parties and that have the main purpose of converting old equity into new equity with the aim of benefiting from the notional deduction would be a necessary measure to prevent aggressive tax planning. Only a small amount of respondents disagrees with such a measure (6/67), while a substantial amount of

participants has not responded to the question (20/67) or does not know the answer (6/67).

Most respondents agree, strongly agree or are neutral (32/67) that the exclusion of cascading through intra-group loans is necessary. Disagreements with such a measure are residual (6/67). It is important to note that a substantial amount of participants did not respond (21/67) or did not know the answer (8/67).

A great part of respondents disagree or strongly disagree (22/67) that contributions in kind and cash should be excluded in order to prevent abuse of an allowance for equity against only (8/67) that agree or strongly agree. Of the total amount of participants a large share did not know the answer to this question (10/67) or did not answer (21/67).

More respondents agree or strongly agree (19/67) with the exclusion of capital increase subscribed by the company or one of its subsidiaries (own shares), than the ones who disagree 14/67. However more than half of respondents did not provide a concrete answer, therefore the results are not clear.

More respondents that agree or strongly agree (17/67) that the exclusion of intra-group transfers would prevent aggressive tax practices, than the ones that disagree with such a measure (9/67). More than half of the respondents (35/67) did not answer the question or did not know the answer (if neutral answers are added 41/67 did not present a clear answer). Therefore, the answers provided do not show a clear pattern.

Most respondents did not have a clear position on preventing re-categorization of old capital as new capital through liquidations and the creation of new businesses. A total of 43/67 were either neutral, did not know the answer or did not responded to the question. Among the remaining respondents 13/67 agreed or strongly agree that the re-categorization of old capital as new capital through liquidations and the creation of new businesses should be prevented, while are against (11/67) such a measure.

The answers provided do not reveal a clear pattern with regards to the exclusion of businesses held by associated enterprises. Although more respondents agree or strongly agree (18/67) that businesses held by associated enterprises should be excluded, than the ones that disagree (10/67) with such a statement, there is a significant part of respondents that did not know the answer or did not answer (31/67). If the neutral (10/67) answers are added to these figures then it is clear that the majority of respondents did not have a strong position on the topic (41/67).

55/67 respondents did not present other anti-abuse measures.

ANNEX 3: WHO IS AFFECTED AND HOW?

1. Practical implications of the initiative

The Debt Equity Bias Reduction Allowance (DEBRA) would mitigate the tax induced debt-bias. This would reduce the role of taxation in the decision for debt and equity financing of investments. The mitigation of the debt bias should increase the share of equity investments. Businesses with relevant equity increases are directly affected. The measure also affects tax administrations in Member States and Member States' tax revenues.

2. Summary of costs and benefits

Table A3.1. Overview of benefits of preferred option

I. Overview of Benefits (total for all provisions) – Preferred Option		
Description	***Amount***	***Comments***
Direct benefits		
Placing taxation of debt and equity on an equal footing	++	Comparable tax advantage between investment through equity or debt that should benefit businesses and have broader positive financial and economic effects. This comparable advantage is achieved efficiently with quasi no cost to the public treasury thanks to a combination of allowance on equity and reduction of tax advantage of debt.
Support creation of harmonized tax environment	++	Avoids fragmentation of the single market by eliminating different treatment under different national allowance for equity measures and stronger limitation rules across all Member States for debt deduction. Should benefit businesses operating in single market. It is in full coherence with previous measures already taken within the Anti-Tax Avoidance Directive (ATAD), such as the interest limitation rule and the General Anti-Abuse Rule (GAAR).
Compliance cost reductions	++	Same administrative rules in all EU Member States compared to existing different compliance rules given several Member States currently have different national measures in place. Should benefit businesses

		operating in single market.
Help reduce the accumulation of debt by non-financial corporations	++	Higher equity ratios reduce insolvency risks. Stronger interest limitation rules would lessen advantages of debt interest deduction and make debt financing less attractive. Should benefit businesses and have overall positive financial and economic effects. Accumulation of debt is reduced while maintaining coherence with previous tax rules, not radically changing the rules and not affecting the legitimate expectations of investors.
Encourage equity investments	++	Positive effects on competitiveness, innovation, growth and employment in the EU. Simultaneously, equity investment are encouraged and use of debt discouraged.
Provide for a comprehensive anti-abuse framework.	++++	Ensure effective measures against aggressive tax planning are used throughout the EU.
Remove distortions in the single market	++++	New investment through equity will receive comparable tax treatment as through debt throughout the EU. This option is more effective by playing on both equity and debt side, while not diminishing the competitiveness of the EU economy, which would be the case with disallowing completely interest deductibility in other options.
Indirect benefits		
Reduction in insolvency risk due to higher equity ratios	++	Higher equity ratios reduce the debt burden and make businesses more resilient to changes in the business environment.
Complements other measures to support equity financing (including for SMEs) and furthering capital markets union	++	Companies (including SMEs) will benefit from this measure as it will help incentivise their re-equitisation. More diverse capital structure would support improve broader financial and economic positions.
Complements other policy efforts to de-leverage businesses and mitigate reliance on	++	High debt/leverage at company level introduces operational strains and heightens risks of insolvency that can have broader financial and

debt financing for investment		economic ramifications, which would be mitigated by the initiative.

Table A3.2. Overview of cost of preferred option

II. Overview of costs – Preferred option							
		Citizens/Consumers		Businesses		Administrations	
		One-off	Recurrent	One-off	Recurrent	One-off	Recurrent
Allowance for new corporate equity	Direct costs	n.a.	n.a.	Limited implementation costs	Slight increase in compliance costs only when businesses request the allowance.	Low implementation costs for the allowance on equity.	Potentially higher tax admin costs from application of Anti-Avoidance Rules.
	Indirect costs	n.a.	Lower tax revenues from corporate taxation	n.a.	n.a.	n.a.	n.a.
Limitation of interest deduction	Direct costs	n.a.	n.a.	No additional reporting requirements so no additional one-off costs.	Debt financing becomes more costly.	Low implementation cost since existing software needs update.	No additional recurrent costs.
	Indirect costs	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Costs related to the 'one in, one out' approach							
Total	Direct adjustment costs	n.a.	n.a.	No one-off cost	Slight increase in compliance costs only when businesses request the allowance		
	Indirect adjustment costs	n.a.	n.a.	n.a.	n.a.		
	Administrative costs (for offsetting)	n.a.	n.a.	n.a	n.a.		

3. Relevant Sustainable Development Goals

III. Overview of relevant Sustainable Development Goals – Preferred Option (Option 5)		
Relevant SDG	**Expected progress towards the Goal**	**Comments**

SDG no. 8 – Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all	DEBRA is expected to lead to a GDP increase of 0.26% across the EU as a whole. Investment is expect to increase by 0.84 percent of the EU-27 average GDP.	Expected to foster economic growth, innovation and employment creation in line with targets 8.1, 8.2, 8.3 among others
SDG no. 9 – Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation	By increasing equity investments across the EU, DEBRA is expected to indirectly promote the development of innovative technology	Expected to foster investment and thus contribute to, for example, targets 9.2, and 9.4

Excessive debt levels make businesses more prone to insolvency and increase the overall risk of broad financial crisis. By mitigating the existing differences in the tax treatment between debt and equity, DEBRA will not only promote economic growth, but also reduce financial stability risks within the internal market. Equity financing is particularly relevant to meet investment needs under the twin transitions and for SMEs, which due to their small size, low assets and reduced credit history, are likely to struggle to get financing from traditional financial institutions.

By mitigating the differences in the tax treatment between debt and equity, DEBRA creates further incentives to equity investments in bold new ideas and products, fostering research and innovation in the EU. Increasing equity investments will therefore play a major role in fostering the development of new solutions, which are essential for reaching the objectives set out by the Commission in relation to the twin digital and green transitions.

Overall, DEBRA has the potential to not only reduce the risk of existing companies to go into bankruptcy, but also accelerate the creation of innovative new businesses, and therefore have a positive effect on employment.

These positive impacts are in line with two of the 17 United Nations Sustainable Development Goals ("SDG"). These are SDG 8 "Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all" and SDG 9 "Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation".

Specifically regarding SDG 8, DEBRA is expected to, as assessed throughout this impact assessment, foster economic growth, innovation and employment creation. These impacts are in line with targets 8.1, 8.2, 8.3 among others. As to SDG 9, by increasing equity investments in the EU, DEBRA will promote the development of innovative technology, which may contribute to target 9.2. "sustainable industrialization", as well as target 9.4 specifically to "upgrade infrastructure and retrofit industries to make them sustainable".

ANNEX 4: ANALYTICAL METHODS

1. CORTAX: A model to simulate corporate tax policies

1.1. Brief Description of the Model

The CORTAX model is a computable general equilibrium model designed to evaluate the effects of corporate tax reforms in 27 EU countries assuming optimal behaviour of all agents in the economy. In the model, each country is assumed to have the same structure in terms of consumption, savings, production and public finances (though the data are country-specific). Countries are linked to each other via international trade in goods markets, intermediate goods markets and investment by multinationals. The model also includes Japan, the UK, the USA and a tax haven.

Firms are divided into three categories: multinationals' headquarters, their subsidiaries located abroad and domestic firms that only produce in their country of residence. Multinationals and domestic firms differ to the extent that the former optimise profits globally and are engaged in profit shifting activities across borders. Domestic firms pay their corporate taxes in their country of residence according to the taxable profits generated in this country only. Both domestic and multinational firms can shift profits to the tax haven to reduce their tax burden. In the benchmark, all firms are equal and, whilst on aggregate taxable profits are positive, there are random shocks affecting their revenues that can be attributed to, for example, business cycle evolutions. These shocks may result in losses that can be carried forward in the model.

A breakdown of the results by firm type is not commonly done. While technically possible, it is important to clarify what exactly would be hoped to be learnt from this additional output or what variables would be of particular interest. The calibration of the parameters that determine the behavioural response of the different firm types would result in the expectation that MNEs respond slightly stronger than purely domestic firms, in line with empirical facts. In addition, given the typically lower financing costs of MNEs compared to domestic firms, the impact of the reforms would be larger for MNEs.

In relation to government, there is a balanced budget where consumption and public debt are a fixed proportion of GDP. Tax revenues and/or transfer payments adjust to keep a balanced public budget. The taxes included in CORTAX are consumption taxes and direct taxes on income from corporate and labour, dividends, capital gains and interest. Government consumption and government debt as a share of GDP are kept constant after a reform.

The effects of reforms can be expressed as changes in GDP, household consumption, business investment and fiscal revenue. The model is elaborated using data from different data sources including Eurostat, the OECD, the United Nations, the IMF and the Orbis firm database. The structural description of the model and the calibration process borrow heavily from Bettendorf et al. (2009b).

1.2. Model Validation and Peer Review

The CORTAX model has acquired a strong reputation among corporate tax experts. The model was originally produced by CPB Netherlands, and has since been used by experts affiliated to the Oxford University Centre for Business Taxation, the Erasmus University Rotterdam, the Tinbergen Institute and CESifo. The model was previously used in European Commission's impact assessments of the common consolidated corporate tax base and is discussed in further detail in (European Commission, 2016)

1.3. Key assumptions

CORTAX accounts for two types of households: old and young. Households maximise their intra-temporal utility function subject to a budget constraint, where net savings from young workers (wages, current transfers and negative consumption) are equal to negative value of net savings from old households. The effects on welfare are calculated using the compensating variation. This is calculated as the difference in transfers received by young households required to compensate the change in utility.

Firms maximise their value subject to the production function and the accumulation constraints on physical capital and fiscal depreciation. Total production is calculated as the sum of production in all firms (domestic and multinationals) net of intermediate inputs in foreign subsidiaries. Usually, the production function is a Cobb Douglas combination of the fixed factor and the value added, which is a CES aggregate of labour and capital. The model allows the parent company to charge a transfer price for intra-firm deliveries that deviates from the equivalent price that would be charged if it had been an inter-firm transaction (the 'arms-length' price), which reflects profit shifting in multinationals. Both, multinationals and domestic firms have some access to tax havens, which are another mechanism by which they shift profits. The degree of profit shifting to tax havens depends on the difference between the statutory rate in their respective countries and the tax rate in the tax haven.

CORTAX is by design a one-sector economy and does not allow to distinguish between, say, different NACE industries, or between financial or non-financial firms. Therefore, a breakdown of the results by industry is not possible. The purpose of CORTAX is to provide a detailed illustration of the corporate sector as a whole, but it is not a multi-sector model in the classical sense that considers different industries and the linkages between them. It can also not be parametrised so as to mirror a specific industry. Likewise, CORTAX does not consider different types of investments, such as with respect to the type of asset invested in.

The simulations are coded to ensure that the government budget remains balanced, i.e. governments do not run deficits or surpluses. This is achieved in two ways. First, some simulations are run under the assumption that governments will compensate for the change in the tax base by adjusting the corporate tax rates to maintain constant corporate tax revenue, prior to any behavioural response (i.e. ex-ante to the simulation). Whether or

not this ex-ante compensation is introduced, further changes in the tax revenues are balanced by the government adjusting transfers to retirees.

1.4. Construction of the baseline and core policy simulations

The model provides a consistent and connected framework for firms, household and governments. The data and the current policies of each country are used to replicate the corporate taxation regime, and indeed the production structure and household behaviour. The corporate taxation regime is necessarily stylised (for example, not every deduction can be included), though the simulations confirm that at a macro-level the CIT regimes are replicated well.

Debt and equity financing can be seen as imperfect substitute forms of capital use, and their different tax treatment introduces distortions in the way firms and investors choose to invest funds – the so-called debt bias. An allowance for the stock of corporate equity (ACE), an allowance on new corporate equity (ANCE) and an allowance on corporate capital (ACC) which provides an notional interest deduction on investments, regardless of its form (debt or equity) are analysed.

CORTAX parametrises the deductibility of the cost of equity and debt through two β parameters: β_equity and β_debt. In a "classical" tax system, with full deductibility of interest payments and no deductibility of the cost of equity: β_equity=0 and β_debt=1. The baseline calibration of the model considers the existing limited deductibility of debt in some EU MS (e.g. Germany and Italy, where interest is not or only partially deductible from the local business tax base) and the existence of an allowance on equity in Belgium, Italy, Cyprus, and Poland.

To simulate the effects of the different policy options, the β_equity has been calibrated for each MS and between multinational and domestic firms using data from ORBIS and the ECB Survey on the Access to Finance of Enterprises (SAFE). The β_equity can be best seen as a product of (i) the notional allowance factor calibrated by country and type of enterprise and (ii) the base of the allowance.

Next, the base of the allowance is calibrated using data from ORBIS for the financial year 2018.

As the model does not include the implementation of the Anti-Tax Avoidance Directive (ATAD), it cannot directly simulate the effect of a change in such directive. Option 5 is simulated by compensating the increase in deductibility on equity with a reduction by 25% of debt's interest deductibility.

2. Measuring the cost of capital and effective average tax rates

An alternative measure employed is the analysis of existing differences in effective corporate tax rates within the EU. The aim is to detect possible tax induced distortions to the allocation of resources in both domestic and international investments in a theoretical framework which allows country comparisons. The analysis of the impact of taxation on

investment behaviour requires forward-looking indicators which include a large majority of the relevant tax provisions relevant for corporate investment.

The annual report on effective tax levels in the EU carried out by the ZEW applies a forward-looking approach originally developed by Devereux and Griffith (1998a, 1998b) and provides a comprehensive analysis of the effects of tax legislation on investments for all 27 EU Member States and selected third countries.

The basic approach is to consider a hypothetical incremental investment located in a specific country that is undertaken by a company resident in the same country or in another country. Two tax measures are computed: the cost of capital and the effective average tax rate. The cost of capital measures the required minimum pre-tax return of a real investment (the 'marginal investment') to achieve the same after-tax return as a safe investment in the capital market. The standard assumption by the ZEW for the real return on the safe investment is 5%. The lower the cost of capital the more investments are undertaken. If the cost of capital is exactly equal to the return from a safe investment, the tax system does not distort the scale of investments. This approach is based on the presumption that firms undertake all investment projects that earns at least the required rate of return.

A complementary approach is to consider discrete choices for profitable investments and in particular discrete location choices. The effective average tax rate measures the relative difference between a fixed rate of pre-tax return of a profitable investment (the standard assumption by the model is 20%) and its after-tax return.[80] The effective average tax rate is thus a measure of the attractiveness of a tax system.

In both cases, the hypothetical investment takes place in one period and generates a return in the next period. The impact of taxation is analysed by considering a number of features of the tax system, including the statutory tax rate, capital allowances, the treatment of interest deduction, the allowance for corporate equity, the treatment of foreign source income, wealth taxes paid by the company, as well as possibly the treatment at the corporate and personal level of dividends paid by the company, and wealth and capital gains taxes at the personal level.

Both the cost of capital and the effective average tax rate are computed for five different types of assets (intangibles, buildings, machinery, financial assets, inventory) and three different sources of financing (retained earnings, new equity, debt). Further, both measures are computed for the corporate level and the shareholder level, considering three different types (zero-rate, top-rate non-qualified and top-rate qualified shareholder) and can thereby be used to compare the relative distortions introduced by the tax system in relation to certain investments or financing sources both at the corporate level and shareholder level.

[80] When the profitability is equal to the cost of capital, the effective average tax rate equals the effective marginal tax rate.

In presenting averages over different forms of assets, these assets are weighted equally, while unequal weights are used for financing: retained earnings 55%, new equity 10% and debt 35% (based on OECD, 1991). As for true economic depreciation rates it is assumed: intangibles (15.35%), industrial buildings (3.1%); machinery (17.5%), financial assets (0%), and inventories (0%).

In the context of the 2016 impact assessment for the CCCTB proposal, a study using the methodology described above was produced by the ZEW. The first report analysed the impact of debt-bias reforms on the cost of capital and effective average tax rates as well as the consequences of a revenue neutral implementation. Four debt-bias reforms were considered at the time: no interest deductibility (Comprehensive Business Income Tax, CBIT), Allowance for Corporate Equity (ACE), Allowance for Corporate Capital (ACC) and Cost of Capital Allowance (CoCA).

In the context of the current impact assessment, the 2020 update of the ZEW study (ZEW 2020) on effective tax rates has been used to assess evidence on the debt-equity bias and the effect of existing allowances in Member States.

ANNEX 5: COMPLEMENTARY RESULTS FROM CORTAX

1. Results on economic impacts from the uncompensated approach

The CORTAX modelling approach provides a compensated and uncompensated approach. In the compensated approach, CIT tax rates are adapted so as to assure ex-ante revenue neutrality of the policy option in order to isolate structural effects from budgetary effects. In the uncompensated approach CIT rates are kept fix. Two scenarios are estimated, one where there all firms are treated identical and another one where SMEs receive a higher notional interest rate (NIR) when calculating their allowance. This has been already discussed in detail in Section 6.1. The policy options have been analysed based on the application of an EU-wide NIR and a Member State specific NIRs. The compensated approach did not provide results with an EU-wide NIR due to technical problems. Specifically, the required change in CIT rates to compensate for CIT revenues losses due to the equity allowance would have resulted in non-feasible CIT rates of more than 100%. Accordingly, the results presented in Section 6.4. are those based on Member State specific NIRs. For the sake of clarity, the discussion of country specific NIRs versus an EU-wide NIR has been avoided in Chapter 6. Comparison of results reveal that the results of an EU-wide NIR indicate stronger effects than the results for a country specific NIR. The third approach of currency specific NIRs lies between those two approaches and has not been modelled separately.

Table A5.1 and A5.3 present the results for scenario 1 and 2 base on member state specific NIRs. Table A5.2 and A5.4 present the results for an EU-wide NIR. Comparison of respective tables makes clear that a switch from an MS specific NIR to an EU-wide NIR shifts the effects of the allowance for equity up, i.e. the impact of Options 1, 2, 3 and 5 become more positive. Option 4 is unaffected by the two different approaches since now allowance is granted.

Table A5.1. Economy-wide impacts of debt bias reforms without budget neutrality; MS specific notional interest rate; Scenario 1 – equal treatment of all businesses; GDP-weighted EU-27 average

	(1) ACE	(2) ANCE	(3) ACC	(4) NDI	(5) ANCE + partial NDI
Cost of capital (change in percentage points)	-0.397	-0.174	-0.437	0.49	-0.057
Investment (change in % of GDP)	6.216	2.643	6.336	-7.599	0.592
Share of debt-financed total assets (level, ex-post)	43.18	44.86	42.93	40.92	43.32
Wages (change in %)	2.442	1.064	2.462	-2.985	0.309
Employment (change in %)	0.689	0.284	0.717	-1.219	-0.051
GDP (change in %)	2.388	1.022	2.431	-3.266	0.165

Source: Joint Research Centre of the European Commission (2021).
Note: Results are GDP-weighted EU-27 averages

Table A5.2. Economy-wide impacts of debt bias reforms without budget neutrality; EU-wide notional interest rate; GDP-weighted EU-27 average

	(1) ACE	(2) ANCE	(3) ACC	(4) NDI	(5) ANCE + partial NDI
Cost of capital (change in percentage points)	-0.482	-0.212	-0.618	0.49	-0.096
Investment (change in % of GDP)	7.436	3.127	9.304	-7.599	1.077
Share of debt-financed total assets (level, ex-post)	41.39	43.84	43.98	40.92	42.25
Wages (change in %)	2.815	1.223	3.314	-2.985	0.471
Employment (change in %)	0.807	0.325	1.069	-1.219	-0.008
GDP (change in %)	2.767	1.174	3.385	-3.266	0.32

Source: Joint Research Centre of the European Commission (2021).
Note: Results are GDP-weighted EU-27 averages

Table A5.3: Economy-wide impacts of debt bias reforms without budget neutrality; MS specific notional interest rate; Scenario 1 – Rate top up for SMEs; GDP-weighted EU-27 average

	(1) ACE	(2) ANCE	(3) ACC	(4) NDI	(5) ANCE + partial NDI
Cost of capital (change in percentage points)	-0.397	-0.174	-0.397	0.49	-0.057
Investment (change in % of GDP)	6.825	2.899	6.825	-7.599	0.844
Share of debt-financed total assets (level, ex-post)	42.87	44.7	42.87	40.92	43.15
Wages (change in %)	2.685	1.172	2.685	-2.985	0.418
Employment (change in %)	0.752	0.307	0.752	-1.219	-0.028
GDP (change in %)	2.617	1.119	2.617	-3.266	0.262

Source: Joint Research Centre of the European Commission (2021).

Table A5.4. Economy-wide impacts of debt bias reforms without budget neutrality; EU-wide notional interest rate; Scenario 2 – Rate top up for SMEs; GDP-weighted EU-27 average

	(1) ACE	(2) ANCE	(3) ACC	(4) NDI	(5) ANCE + partial NDI
Cost of capital (change in percentage points)	-0.482	-0.212	-0.618	0.49	-0.096
Investment (change in % of GDP)	8.181	3.426	12.67	-7.599	1.371
Share of debt-financed total assets (level, ex-post)	40.95	43.61	44.19	40.92	42

Wages (change in %)	3.096	1.344	4.346	-2.985	0.594
Employment (change in %)	0.884	0.352	1.315	-1.219	0.018
GDP (change in %)	3.038	1.284	4.341	-3.266	0.431

Source: Joint Research Centre of the European Commission (2021).

2. Analysis of restricted equity

In order to complement the analysis and better understand different parameters of the policy options, an alternative equity definition has been analysed in the context of Option 1 and 2. These alternative options will in the following be called option 1b and 2b.

Option 1b provides for a legislative initiative as well, but one that applies a restricted equity definition to the approach described for Option 1. Restricted equity is defined as the sum of subscribed capital and share premium accounts. The calculation of the allowance would be as in Option 1 but based on this restricted equity, i.e. compared to Option 1, reserves would be excluded. Under a restricted definition of equity, only external capital increases would qualify for an allowance. This would limit the fiscal cost of the measure and focus on fresh capital only.

Option 2b: Option 2b would apply a restricted equity definition (same as option 1b) in relation to the approach described for Option 2. The calculation of the allowance base would use restricted equity to calculate the allowance base, i.e. compared to Option 2, all forms of reserves would be excluded.

The restricted definition of equity only takes into account registered capital and share premium accounts. Due to data limitations, the structure of corporate equity across countries is generally not know. The firm level data base ORBIS provides information on registered capital and total equity but not on share premium accounts. Therefore, the estimations of policy options involving a restricted definition of equity only consider registered capital and disregard share premium accounts. More detailed micro-data from Italy suggests that restricted equity could be 10% to 30% higher if share premium accounts would be added. Estimations are thus lower bound results in these cases.

Tables A5.7 and A5.8 provide CORTAX modelling results for Options 1b and 2b respectively. Column 2 reports compensated results with a special treatment of SMEs when Member State specific notional interest rates are applied. Column 3 adds a SME top-up to compensated results based on Member State specific notional interest rates. Column 4 shows uncompensated results without SME top-up based on Member State specific notional interest rates. Column 5 add an SME top-up to the uncompensated results based on Member State specific notional interest rates. Column 6 and 7 finally show uncompensated results for an EU wide notional interest rate without and with a SME top-up, respectively.

If the restricted definition of equity is applied (Option 1b and Option 2b) the changes in debt-shares are small or even positive. The increase in debt-shares reported for Option 2a results from the fact that existing notional equity allowances in six Member States would be substituted with an EU wide system based on a much more limited equity definition.

The ACE with restricted equity (1b) would result in additional investments of 0.34% of GDP and GDP growth of 0.11%. If an allowance would be granted for new restricted equity only as in Option 2b, investments and GDP would actually decrease by -0.02% of GDP for investment and -0.003% for GDP. Given the very restricted equity definition, the measure would have a small positive impact on investment and growth in those Member States without any allowance for equity in place. The substitution of the existing allowances for equity in Belgium, Cyprus, Italy, Malta, Poland and Portugal with the ANCE based on restricted equity, however has a strong contractive effect. Overall, the negative effect on the six Member States with an equity allowance in place, would overcompensate the positive effects, so that for the EU-27 a negative impact is observed.

Table A5.7. Economy-wide impacts of ACE as in Option 1 with restricted equity definition

	Comp No-SME MS NIR	Comp SME top-up MS NIR	Uncomp No-SME MS-NIR	Uncomp SME top-up MS-NIR	Uncomp No-SME EU-NIR	Uncomp SME EU-NIR
Change in CIT rate (change in percentage points)	0.884	0.988	0	0	0	0
Cost of capital (change in percentage points)	-0.028	-0.025	-0.048	-0.048	-0.061	-0.061
Investment (change in % of GDP)	0.336	0.379	0.732	0.82	0.879	0.978
Share of debt-financed total assets (level, ex-post)	46.35	46.33	46.24	46.19	46.14	46.09
Wages (change in %)	0.112	0.129	0.303	0.341	0.349	0.391
Employment (change in %)	0.017	0.017	0.079	0.086	0.089	0.097
GDP (change in %)	0.112	0.126	0.288	0.322	0.33	0.367

Source: Joint Research Centre of the European Commission (2021).
Note: Results are GDP-weighted EU-27 averages

Table A5.8. Economy-wide impacts of ANCE as in Option 2 with restricted equity definition

	Comp No-SME MS NIR	Comp SME top-up MS NIR	Uncomp No-SME MS-NIR	Uncomp SME top-up MS-NIR	Uncomp No-SME EU-NIR	Uncomp SME EU-NIR
Change in CIT rate (change in percentage points)	-0.077	-0.047	0	0	0	0
Cost of capital (change in percentage points)	0.002	0.003	0.005	0.005	0.002	0.002
Investment (change in % of GDP)	-0.016	-0.008	-0.045	-0.023	-0.015	0.009

Share of debt-financed total assets (level, ex-post)	46.52	46.52	46.62	46.61	46.6	46.59
Wages (change in %)	-0.004	-0.001	-0.016	-0.006	-0.007	0.003
Employment (change in %)	0.001	0	-0.005	-0.003	-0.003	-0.001
GDP (change in %)	-0.003	-0.001	-0.017	-0.008	-0.009	0

Source: Joint Research Centre of the European Commission (2021).
Note: Results are GDP-weighted EU-27 averages

3. Calibration of the preferred Option 5

The preferred Option 5 is the only option which achieves a far-reaching mitigation of the debt-equity bias without incurring substantially cost on society either by contracting the economy (full non-deductibility) or contracting public budgets. It provides an equilibrated approach tackling the debt-equity bias simultaneously from the equity and debt side, and while doing so balances out the budgetary effects of both actions. The correct calibration of this approach has not yet been determined due to data limitation and the requirements for further political decision making. Research is ongoing.

On the equity side the decisive parameters are the notional interest rate, the duration of allowance and the year to year increase in equity. The growth rate on equity is determined by economic agents investing. The duration of the measure has been fixed to 10 years. For the notional interest, currently two options are being considered. The NIR is determined by a risk free rate plus x. For the risk free interest rate the EIOPA risk free rate for the Euro area would be applied to all Member States. The risk premium is would be either 2 percentage points or 3 percentage points.

On the debt side, the interest deductibility could be reduced either through a more stringent application of the ATAD 1 ILRs or through a specific DEBRA ILR. The latter could take up design elements from ATAD or simply propose a proportional interest limitation applying to all companies uniformly.

The specific calibration has not been determined. Table A5.9 shows the implications of different parameter values in the context of CORTAX modelling. Specifically, a notional interest rate of 2.2% and 3.2% is considered and an interest limitation of 10% and 25% (i.e. instead of all interest only 90% or 75% could be deducted). As already discussed in Chapter 6 and Annex 6, CORTAX does not model ATAD 1 and thus does not include ILRs in its base line. The situation where ATAD exists and interest deductibility would thus be differently parametrises in CORTAX compare to the empirical reality. We consider IRLs of 10% and 25% useful lower and upper bounds to guide further research on the matter.

Table A5.9 indicates that higher NIRs would lead to more effective but also more costly measures. A higher IRL would reduce cost but also reduce costs. Both work together in mitigating the debt-equity bias. It is noteworthy that the change of the NIR from 2.2% to 3.2% has much more pronounced effects that the switch from 25% ILR to 10% ILR.

Table A5.9. Economic impacts of Option 5 – uncompensated approach, EU-wide NIR

	2.2% NIR 25% ILR	2.2% NIR 10% ILR	3.2% NIR 25% ILR	3.2% NIR 10% ILR

Cost of capital (change in percentage points)	1.371	2.287	2.772	3.982
Investment (change in % of GDP)	1.371	2.287	2.772	3.982
Share of debt-financed total assets (level. ex-post)	42	43.17	40.73	41.67
Wages (change in %)	0.594	0.917	1.12	1.561
Employment (change in %)	0.018	0.187	0.184	0.376
GDP (change in %)	0.431	0.824	0.964	1.461
CIT revenue (change in % of GDP)	-0.163	-0.386	-0.437	-0.709
Total tax revenue (change in % of GDP)	0.066	0.003	0.03	-0.035

Source: Joint Research Centre of the European Commission (2021).
Note: Results are GDP-weighted EU-27 averages

ANNEX 6: STATISTICS ON CORPORATE INDEBTEDNESS

1. Interest limitation rules

There is very limited public information on the quantitative implications of the interest limitation rules (ILR) of ATAD 1. This section uses ORBIS company data to gather some insights.

1.1. Sample

For 2018, there have been about 25 million active companies in the EU, with about 2.5 million newly born in 2018. ORBIS contains about 2.5 million observations of enterprises in the EU for 2019. Relevant information for the application of ATAD rules (EBITDA, EBIT, interest payments) is available for 1.97 million companies. A total of 1.49 million companies have positive values for EBITDA, EBIT and interest payments and thus constitutes the relevant (non-representative) sample of analysis.

The sample of 1.49 million companies is not representative for the EU-27. There are basically no observations (less than 20) for BG, EE, HR, HU, NL and PL. Most observations are from Italy (31%), Spain (19%), Portugal (8.7%), France (8.6%), Sweden (8.6%), Romania (7%) and Denmark (4.5%). Given that the sample is not representative, we have no indication how well the statistical analysis can describe the empirical reality.

The sample contains about 93% SMEs (operating revenues of not more than EUR 50 million) and about 7% larger firms. The larger firms account for 72% of revenues and for about 70% of all interest payments registered in the data.

1.2. Understanding DEBRA ILR – Interaction with ATAD 1 (ORBIS)

If DEBRA ILR would exist in parallel to ATAD 1, the more biting rule for the taxpayer should apply. From a practical point of view, the simultaneous application of two or more rules is regularly done by tax authorities and does not pose a problem.

Different sources (Member State authorities, more granular company data) indicate that about 10%-17% of net interest expenses could be covered by ATAD. Only a very small share of companies are captured by ATAD. These companies are responsible for a high share of interest payments and a large share of interests paid per company are captured by ATAD. Thus only a few companies move from ATAD to DEBRA ILR. Since these companies had their interest deduction already restricted, only very limited additional revenues (i.e. new money) will result from these companies which move from ATAD to DEBRA ILR.

2. Calibration of notional interest rate and interest limitation for Option 5

2.1. Data and limitations

There are three approaches available to support the analysis of DEBRA. The CORTAX model, national financial account data and ORBIS company data. This section will shorty discuss what each approach can do and what limits there are. With national financial accounts not differentiation between large firms and SMEs can be made. For consistency the following analysis thus disregards the SME top-up. As results in Section 6 have shown, the SME top-up scales up results but does not change the general message.

CORTAX: CORTAX is a general equilibrium model, i.e. it is highly stylized (e.g. there is one representative household and two companies in each economy). The model has a very detailed description of the tax systems and allows the analysis of tax policies. The results the model provides are country level changes in tax rates, tax revenues, investment, employment, wages and GDP. There is however no time in the model and changes have to be interpreted as change between the old equilibrium pathway and the new equilibrium pathway. The model assumes full information, i.e. everybody knows everything, prices contain all relevant information and there is no uncertainty. In the model, an allowance for equity mechanically reduces the cost of equity and effective taxation, which leads to more investment, employment and growth. On the contrary, a limitation of interest deductibility increases the cost of debt and effective taxation and leads to lower levels of investment, employment and growth. The model provides useful information for comparing policy options. The validity of specific point estimates however should be considered cautiously but due to its limitations should not be used for calibrating specific policy parameters.

National financial accounts: National financial accounts (NFAs) are an element of national accounting, i.e. bookkeeping on the country level. NFAs contain aggregate information on equity, interest paid and interest received per sector of the economy. All observations are static, i.e. no growth effects can be considered. The data is provided by Eurostat and has the best data quality. For the calibration of the debt and equity side of option 5 there are however a few problems. Equity in NFAs contains a few elements, which would likely not qualify as equity under option 5. In addition, equity is reported as the market value of traded and non-traded shares. The market value of shares might differ considerable from the book value of equity, which is the relevant base for the equity allowance. For interest payments there is a problem with the aggregation. Interest limitation will be applied to net interest expenses, i.e. interest paid minus interest received. Since both values are only available in the aggregate, many relevant interest payments might be averaged out (example: company A has 100 interest paid and 10 interest received; B has 20 interest paid and 50 interest received. In total, there are 120 interest paid and 60 interest received. Applying an ILR at the company level would result in (100-10=) 90 falling under the ILR. In the aggregate, only (120-60=) 60 fall under the ILR). In DE, LV, NL and SI net-interest expenses are smaller than zero, i.e. overall non-financial corporations (NFCs) received more interest than they paid. This will not be the case for all companies. Aggregation thus results in lower levels of net-interest payments

than we would see on the company level. The estimated values are thus lower bounds for potential tax revenue gains through an ILR. Gross interest payments are about 4 times larger than net-interest payments, which would constitute an upper bound on potential tax revenue gains from an ILR. The "truth" will lay somewhere in the middle.

ORBIS data: ORBIS provides company level data and thus needs to be used whenever the analysis is contingent on specific company characteristics. All observations are static, i.e. no growth effects can be considered. A problem of ORBIS is sample bias and simple incompleteness. ORBIS is a collection of all publicly available information about companies. Since reporting requirements differ across countries and legal forms of companies, there is generally no guarantee about the representativeness of the sample. On the contrary, it seems very likely that the sample is biased because company characteristics as well as specific country requirements will decide what information a company is reporting and thus what information is part of ORBIS. This data can thus not be used to obtain absolute values (like the equity allowance costs in billion EUR) since only a (unknown) fraction of companies is covered and the coverage differs across MS. However, ORBIS can still be used to analyse ratios, like e.g. what is the proportion of the reduction in interest limitation to the equity allowance. Another major problem in the current context is that ORBIS does not have information about interest received but only about interest paid. In order to approach net interest payments, the share of net interest expenses from national financial accounts could be used (interest received is 75% of interest paid so that net interest paid make 25% of gross interest paid). This of course would transfers the problem of averaging out interest received and paid across companies from the macro data to the micro data. It is thus assumed that net interest expenses are equal to 50% of gross interest expenses.

2.2. Why move from alternative 5a (2.2% NIR / 25% ILR) to alternative 5b (1.2% NIR/ 15% ILR)

This section will discuss several pieces of evidence around Option 5 which justify why the preferred option is alternative 5b, i.e. a notional allowance on equity with a notional interest rate defined by the risk-free rate plus 1% risk premium combined with a limitation on interest deductibility of 15%. While CORTAX suggests that a higher NIR and higher ILR are more effective in mitigating the debt-equity bias without much additional fiscal costs, static evidence presented in the following paints a different picture. Since many real life events can break the mechanical model link between the reduction of the costs of capital and investment and growth (e.g. pandemic, war etc.) the policy evaluation should not rely too much on the assumption of growth. It is thus a measure of caution and the aim to prevent excessive fiscal costs which lead to a preference for alternative 5b. Note that the SME top-up is not considered separately in this exercise due to data limitations. Inclusion of the SME top-up shifts up results proportionally. The line of argument remains unaffected.

2.2.1. Evaluation with CORTAX

The CORTAX model has been used to estimate macro-economic impacts of DEBRA. Table A6.1 exhibits the main findings for two different designs of DEBRA:

Alternative 5a: a 10 year equity allowance with NIR = 2.2% and DEBRA ILR = 25%.

Alternative 5b: a 10 year equity allowance with NIR = 1.2% and DEBRA ILR = 15%

Column 'Inv' reports investments (i.e. the percent change in capital stock), column 'Wage' reports the percentage change of the wage rate, '*Empl.*' reports the percentage change in employment, '*GDP*' reports GDP change in percent, '*Rev_CIT*' reports the change in CIT tax revenues expressed in % of GDP, '*Rev_tax*' reports the change in overall tax revenues expressed in % of GDP and finally, '*Diff*' reports the change in the share of debt used in the economy.

Inspection of Table A6.1 indicates that both approaches mitigate the fiscal impact of the measure. A lower notional interest rate and less interest deduction has less impact on the economy and on the mitigation of the debt-equity bias.

Table A6.1: Comparing the alternatives with CORTAX

	Inv.	Wage	Empl.	GDP	Rev_CIT	Rev_tax	Diff
Alt. 5a: 2.2% NIR/25% NIR	1.077	0.471	-0.008	0.32	-0.111	0.068	4.17
Alt. 5b: 1.2% NIR/15% ILR	0.296	0.128	-0.005	0.084	-0.038	0.018	2.09

Alternative 5a thus has a more pronounced effect, leading to higher investments more growth and a stronger reduction of the debt-equity bias than alternative 5b. While CIT revenues are being lost, overall tax revenues are positive and more so for option 5a. Specifically, in 2021 values estimates would amount to CIT revenue losses of about EUR 16 billion for alternative 5a and about EUR 5.5 billion for option 5b. Due to increased investment and associated growth, overall tax revenues are predicted to increase for both options. In 2021 values the overall increase in tax revenues for alternative 5a is estimated to be about EUR 9.8 billion, for alternative 5b about EUR 2.6 billion.

CORTAX would suggest that alternative 5a is preferable to alternative 5b. These results obviously depend strongly on the growth mechanics resulting from the maximizing behaviour of the agent in the model. Note however, that there is no uncertainty in the model so that exogenous crisis, which could prevent additional investments for other reasons cannot be taken in consideration.

2.2.2. Evidence from national financial accounts

National financial accounts are used to compare the potential tax revenue costs of an allowance for equity with potential revenue gains resulting from a proportional limitation on interest deductibility. This exercise is undertaken for alternative 5a and alternative 5b differently. Several assumptions are required to derive results. The analysis shows that

even under optimistic assumptions a substantial fiscal gap to finance the equity allowance remains in this static approach.

Optimistic scenario (this scenario assumes low equity costs and high revenues): only 50% of equity is relevant for DEBRA, equity growth with 4% p.a., NIR is 1% or 2%[81], 10 years duration. All companies, which have been captured under ATAD would now fall under the proportional DEBRA ILR with 15% or 25% of interest being non-deductible. Since interest deductibility has already been limited under ATAD, additional revenue gains are limited, only "new money is considered". In addition, higher net interest payments are assumed than what is reported in the data. As discussed, interest received is 75% of interest paid overall. Since there might be companies with very high positive net interests and others with negative net interests, the actual contribution of an ILR might be higher than the aggregated difference between interest paid and interest received. In the optimistic scenario it is thus assumed that net interest payments are 50% of gross interest payments (as opposed to 25% as indicated by the data).

Pessimistic scenario[82] (this scenario assumes higher equity costs and lower revenues from interest limitation): 80% of equity is relevant for DEBRA, 4% growth, NIR is 1% or 2%, 10 years duration. All companies, which have been captured under ATAD remain under ATAD. Net interest expenses are 25% of gross interest paid.

The central assumptions of the optimistic and a pessimistic scenario focus on the share of relevant equity, the growth rate of equity and the relationship between gross and net interest payments. The policy parameters of interest are of course the notional interest rate (NIR) and the proportional interest limitation rule, as expressed in option 5a and 5b.

Table A6.2 reports the financing gap in billion EUR that could result for given policy options and scenarios. The brackets report the share of fiscal costs of the equity allowance which would be covered in the specific context. It becomes obvious that the share of the costs covered is similar for both options. However, in absolute terms the potential financing gap of alternative 5a is more than twice as high as for alternative 5b.

Table A6.2: Financing gap in billion EUR (share of equity costs covered)

	Pessimistic	**Optimistic**
Alternative 5a	43.6 (4.3%)	23.1 (19.0%)
Alternative 5b	21.6 (5.1%)	11 (22.8%)

These static results indicate a potential financing gap and thus highlight the importance of economic growth for the CORTAX results. If in an uncertain environment effective tax rate reductions and lower costs of equity do not mechanically translate into more investments for exogenous reasons like a war, drought or other major disruptions,

[81] For simplicity a risk free rate of 0% has been assumed. A risk free rate of 0.2% as assumed in CORTAX and the ORBIS calculation would result in even higher allowance costs. The financing gap accordingly increases and the arguments gets even stronger.
[82] The pessimistic scenario has a priori the more probable assumptions.

CORTAX results might be too optimistic about the revenue impacts of alternatives 5a and 5b.

2.2.3 Evidence from ORBIS

ORBIS allows for a company level analysis. While the data suffers from sample bias and net interest expenses cannot be directly observed, the data might still be useful, to understand proportions. In line with the assumption in the optimistic scenario for the national financial accounts, net interest expenses are approximated as 50% of gross interest expenses.

If we sum up all equity allowances and all interest limitations, what is the share of revenue losses of the equity allowance which can be covered by the reduction in interest deductibility overall? Table A6.3 reports the shares of expenditure losses covered under the two policy options (columns 2 and 3). Columns 4 and 5 report the share of companies for which the equity allowance is larger than the non-deducted interest payments. It becomes obvious that a considerable majority of companies profits from the measure. Note however that a growth rate of 4% for equity is assumed, i.e. all companies are assumed to increase their equity in each year.

Table A6.3: Share of expenditure losses covered by DEBRA ILR (overall)

	share covered overall		**share winner**	
	net	**gross**	**net**	**gross**
Alternative 5a (2.2%/25%)	34,7%	69,4%	79,7%	67,9%
Alternative 5b (1.2%/15%)	38,2%	76,3%	78,2%	66,2%

ORBIS data suggests a higher coverage of the costs of the equity allowance as compared to what the estimates based on national financial accounts have suggested.

2.2.4 Conclusion

The combination of three three available data-sources indicates that the calibration of the preferred option achieves an optimal trade-off among conflicting objective, while accounting for possible (model) uncertainties. While in the dynamic context both alternative calibrations of option 5 indicate revenue neutralitiy, a static picture indicates potential substantial fiscal costs, possible only in the short term. A calibration with a lower notional interest rate and a limitation of interest deductability to 85% of net financing costs (15% ILR) reduces the risk of substantial fiscal costs.

The preceeding paragraph does not consider the SME top-up separately due to data limitations with national financial accounts. In general, the SME top-up will shift up results and make the argument for a more prudent approach based on 1%/1.5% risk premium and 15% interest limitation rule even stronger.

3. Disentangle the effect of equity allowance and ILR on debt bias

While it is inherently difficult to disentangle the effect of the equity allowance from the effect of the interest limitation rule, four different model runs of CORTAX can be used to develop some preliminary understanding of the issue.

Table A6.4 reports the reduction in the debt share in the EU-27 for given parameter values of option 5. The first four specifications will be used to disentangle the effect of the NIR and the ILR.

Table A6.4: Reduction in debt share for different calibrations of Option 5 in CORTAX

	3.2%/25%	**2.2%/25%**	**3.2%/10%**	**2.2%/10%**
change in debt share (in percentage points)	5.69	4.17	4.75	3.25

The results are presented in Table A6.5. In line three the specification with 3.2% NIR and 25% ILR is compared with the specification with 2.2% NIR and 25% ILR. The NIR is thus reduced by 31.3% while the ILR is held constant. This leads to a reduction in the change in the debt share by 1.52 percentage points (5.69-4.17=1.52)

There are thus two main insights: The notional interest rate has a stronger effect on the reduction of the debt shares compared to the interest limitation rule. While a reduction of the NIR by 31.3% (from 3.2% to 2.2%) leads to a change in the debt change of about 1.5 percentage points, a reduction in the ILR by 60% (from 25% to 10%) results only in a change in the debt change of about 0.95 percentage points. Secondly, there is a complementarity between the NIR and the ILR. A given change in the NIR has a larger effect if the ILR is higher. Similarly, a given change in the ILR is more impact full when the NIR is higher.

Table A6.5: The effect of changes in NIR and ILR on changes in the debt share

effect of NIR change		Change in NIR	Change in debt share (in pp)
from	to		
3.2%/25%	2.2%/25%	31.3%	1.52
3.2%/10%	2.2%/10%	31.3%	1.5
effect of ILR change		Change in ILR	Change in debt share (in pp)
from	to		
3.2%/25%	3.2%/10%	60%	0.94
2.2%/25%	2.2%/10%	60%	0.92

ANNEX 7: OVERVIEW OF EXISTING MEASURES IN MEMBER STATES

1. Existing measures of interest allowance for equity in EU Member States

Table A7.1: Overview of existing notional interest allowances

Country	Period	Details	Notional interest rate and equity base
Belgium	Since 2006	The notional interest deduction allows all businesses subject to Belgian corporate income tax to deduct a fictitious amount of interest, calculated based on their shareholders' equity (net assets) from their taxable income. In 2013, legislative changes ruled out the carrying-forward of unused allowances. The base rate for the NIR is the ten year linear treasury bond. Small firms receive an additional 0.5% risk premium on their notional rate. By law, the notional interest rate cannot exceed 3%. Since 2018, the deduction no longer applies to the full equity stock but on the incremental adjusted net accounting equity of a company over a period of 5 years. It includes anti-avoidance provisions to prevent the cascading of the tax benefit and the re-categorisation of old capital in new capital.	NIR in 2020 is 0.0% (0.5 p.p. higher for SMEs, i.e. 0.34%), new equity
Cyprus	Since 2015	Applicable new equity is calculated against 2015 as a base year. The notional interest deduction is limited to 80% of the taxable profit generated from the new equity as calculated before the application of the notional interest deduction and applies only to fully-owned subsidiaries if their assets are used for business (non-financial) purposes. The notional interest rate is the 10-year government bond rate plus a 5% risk premium. The 10-year Cypriot government bond rate only applies if the country in which the new equity is invested has not issued any government bond up until December 31 of the previous year.	NIR in 2020 is 5%. min. 4.5%; max. 18.5%, new equity
Italy	Since 2011	The NID is applicable on new equity compared to the end of 2010 situation. The considered new equity includes the equity contributions and retained earnings, excluding the profits allocated to a non-disposable reserve. It deducts reductions to the net equity with assignment to shareholders (especially dividend distributions), investment in controlled businesses, and certain intra-group business acquisitions and transactions. The notional interest rate is fixed annually by the authorities.	1.3%, new equity
Malta	Since 2018	Notional interest deduction is applied on the stock of equity. The notional interest rate is set to the rate of 20 year Maltese government bonds (1.37% in Q3 2020), plus a risk premium of 5%.	6.47% (in 2020)
Poland	Since 2019	Incremental NID. The notional return is deductible up to approximately EUR 55000. The notional interest rate is the National Bank of Poland's reference rate (as applicable on the last day of the preceding calendar year), plus 1 p.p. The allowance is applied for three years.	2.5%, full equity stock
Portugal	Since 2017	The notional return is deductible up to EUR 2 million and capped at 25% of firm EBITDA. It applies to capital increases for 6 years, provided equity capital is not reduced in that period. The notional rate is fixed by law.	7.0%, new equity

2. Transposition of ATAD 1 interest limitation rules in EU Member States

Table A7.2: Transposition of the ATAD 1 interest limitation rule

	Which deductibility threshold is used? (deductibility up to 30% of the EBITDA under article 4(1) of the ATAD)	**Is a safe harbour threshold implemented?** (article 4(3)(a) of the ATAD)	**Are financial undertakings excluded from the scope of the rule?** (article 4(7) of the ATAD)	**Is it possible to carry-forward or carry-back borrowing costs that are not deducted?** (article 4(6) of the ATAD)
Austria	Deductibility up to 30% of the EBITDA	Yes - EUR 3 million	No	Yes
Belgium	30% of the calculation base[1]	Yes - EUR 3 million	Yes	Yes, carried forward indefinitely
Bulgaria	Deductibility up to 30% of the EBITDA	Yes - EUR 3 million	Yes	Yes, carried forward indefinitely
Croatia	30% of the calculation base[1]	Yes	Yes	Yes, carried forward for 3 years
Cyprus	30% of EBITDA	Yes - EUR 3 million	Yes	Carry-forward is possible.
Czech Republic	30% of the EBITDA	Yes - CZK 80 million	Yes	Yes, carried forward indefinitely
Denmark	30% EBITDA	Yes. Full deductibility up to DKK 22,313,400 (equivalent to EUR 3 million)	Yes	Yes, carried forward indefinitely
Estonia	30% EBITDA	Yes, EUR 3 million	Yes	No
Finland	25% of the EBITD	Yes - EUR 500,000 for loans between related parties and EUR 3 million for loans from unrelated parties	Yes	Yes (only carry-forward)
France	30% of the EBITDA	Yes - EUR 3 million	No	Yes 1) Non-deducted borrowing costs: carried forward indefinitely 2) Unused interest capacity: carried forward up to 5 years
Germany	30% of the EBITDA	Yes Full deductibility of exceeding borrowing costs up to EUR 3 million	Yes	Yes
Greece	30% of EBITDA	Yes - EUR 3 million	Yes	Yes, carried forward indefinitely
Hungary	30% of the EBITDA	HUF 939,810,000 (approx. EUR 3 million at the time of the implementation)	Yes	Carry-forward is generally available for 5 years
Ireland	Interest limitation rule is not based on a threshold, but on qualification criteria	No	No	No
Italy	30% of the EBITDA	No	Yes	Yes, carried forward

Latvia	30% of the EBITDA	Yes, EUR 3 million	No	No
Lithuania	30% of the EBITDA	Yes, full deductibility of exceeding borrowing costs up to EUR 3 million	Yes	Yes, carry-forward
Luxembourg	30% of the calculation base[1]	Yes, EUR 3 million	Yes	Yes, carried forward indefinitely
Malta	30% of EBITDA	Yes, EUR 3 million	Yes	Yes, carry-forward is possible.
Netherlands	30% of the calculation base1	Yes - EUR 1 million	No	Yes - Carried forward indefinitely
Poland	30% of the EBITDA	Yes - EUR 3 million	Yes	Yes, carried forward for 5 years
Portugal	30% of the EBITDA	Yes - EUR 1 million	Yes	Yes, carry-forward for the following 5 tax periods
Romania	30% of the calculation base[1]	Yes - EUR 1 million	No	Yes, carried forward indefinitely
Slovak Republic	Interest deductions limited to 25% of EBITDA	No	Yes	n.a.
Slovenia	No[3]	No	No	No
Spain	30% of the calculation base (i.e. adjusted operating income)[3]	Yes - EUR 1 million	No	Carried forward indefinitely
Sweden	30% of the EBITDA	Yes - SEK 5 million	No	Yes, carried forward for a maximum of 6 years

1. Calculation base = the difference between the gross accounting profit and the tax-exempt income to which corporate income tax, exceeding borrowing costs and deductible tax depreciation, is added back.
2. Slovenia has a thin capitalization rule in place but has not yet transposed the ATAD rule.
3. "Operating income" is defined as earnings from the income statement of the year, after the deduction of (i) amortization and depreciation expenses for fixed and other non-current assets, (ii) subsidies for non-financial fixed assets and others, and (iii) any impairment losses on, and gains on disposals of fixed and other non-current assets, and the addition of any financial income from investments in equity instruments. This financial income only includes income from dividends, or profit participations where the taxpayer directly or indirectly holds at least 5% of the distributing company, or the acquisition cost of the holding in a company was higher than EUR 20 million

ANNEX 8: ANTI TAX AVOIDANCE RULES

1. General Anti Avoidance Rule (GAAR)

A first layer of the anti-abuse framework should be a general anti-abuse provision that would deny notional deduction for operations carried out without any substantial economic purpose or carried out with related parties and that have the main purpose of converting old equity into new equity with the aim of benefiting from the notional deduction.

2. Special Anti Avoidance Rules (SAARS)

The Code of Conduct Group issued a *Guidance on notional interest deduction regimes*[83] based on past decisions of the Code of Conduct Group concerning Notional Interest Deduction regimes (NID) in EU Member States and in some neighbouring countries. It presents a non-exhaustive list of elements and characteristics which indicate that a NID may be harmful when assessed against the criteria of the Code of Conduct Group. This Guidance will serve as a basis for the development of the anti-abuse framework of DEBRA. The following elements could be deducted from the base of the allowance. Reflection is on-going on which elements will finally be incorporated in the Directive.

a) Intra-group loans and loans involving related enterprises;

This measure is designed to prevent that an equity injection granted to company A located in the EU is used by company A to grant a loan to a related company B. Company B uses this money to inject equity in another related company C, located in the EU. This would allow multiplying the allowance on equity with only one genuine equity increase. A related company is defined using the associated enterprises definition (see chapter 5).

b) Cash contributions and contributions in kind;

Cash contributions can be used to cascade the allowance within multinational groups. A group could circulate a cash contribution through related companies to multiply the allowance deduction at the level of different subsidiaries.

Contributions in kind can also be used to abuse the allowance deduction. The value of the asset should not exceed the market value, the value of the asset and the related costs should not exceed reasonable professional needs. The part of the value of the asset contributed in the accounting books of the company that exceeds the market value of this asset will be deducted from the base of the allowance.

[83] WK 11093/2019 REV 1 of 19 October 2019

c) Capital increase subscribed by the company or one of its associated enterprises (as defined above);

This measure aims at preventing that a company or a group of company subscribes to its own equity increase with the aim of benefiting from the deduction of the allowance on equity.

d) Intra-group transfer of participations;

This measure aims at avoiding that measure the exclusion of participations embedded in the allowance base definition is circumvented. Since intra-group participations should be deducted from the allowance base, a group could maximise the deduction by transferring participations to companies that cannot claim an allowance deduction in order to maximise the allowance deduction at the level of the group.

e) Prevent re-categorisation of old capital as new capital through liquidations and the creation of new companies;

f) Exclude acquisitions of businesses held by associated enterprises;

This measure aims at avoiding that a company A of the group tax resident of a non-EU country transfers one of its businesses to company B of the group that is tax resident in a EU member to increase its allowance base. The price paid by company B to company A would come from an equity increase of company B that would lead to a notional interest deduction although there is no actual investment, since the business remains within the same group of companies.

g) Assets not linked to the activity;

The accounting value of investments which by nature are not expected to produce recurring income (e.g. artwork, jewellery, gold, collector items …) will be deducted from the allowance base (passive investments).

This measure aims at avoiding that the allowance on equity is granted on a capital increase used to finance luxury goods. The aim of DEBRA is to stimulate productive investments, financed through equity.

3. SAAR based on the Arm's Length Principle (ALP)

The idea is to mirror the thin capitalization test but with the purpose to avoid overcapitalisation (also called fat capitalisation) and only allow for a deduction when the debt to equity ratio falls within a certain range (thick capitalization rule). Reflection is on-going on this point.

ANNEX 9: MAIN CONCEPTS DEFINITIONS

CORTAX

A general equilibrium model covering all EU Member States, featuring different firm types and modelling many key features of corporate tax regimes, including multinational profit shifting, investment decisions, loss compensation and the debt-equity choice of firms. In economics, **a model** is a theoretical construct representing economic processes by a set of variables and a set of logical and/or quantitative relationships between them. The economic model is a simplified, often mathematical, framework designed to illustrate complex processes. **General Equilibrium** Theory is a macroeconomic theory that explains how supply and demand in an economy with many markets interact dynamically and eventually culminate in an equilibrium of prices.

EBIT

Earnings Before Interest, Taxes and Depreciation

EBITDA

Earnings Before Interest, Taxes, Depreciation, and Amortization.

EIOPA

The European Insurance and Occupational Pensions Authority (EIOPA) is a European Union financial regulatory institution. EIOPA's mission is to protect the public interest by contributing to the short, medium and long-term stability and effectiveness of the financial system for the Union economy, its citizens and businesses. This mission is pursued by promoting a sound regulatory framework and consistent supervisory practices in order to protect the rights of policyholders, pension scheme members and beneficiaries and contribute to the public confidence in the European Union's insurance and occupational pensions sectors.

Equity

Equity is defined as the sum of paid-up capital, Share premium account, Revaluation reserve, Reserves[84], Profit or loss brought forward and Profit and loss of the year.

Equity in the sense of this draft directive

Equity means, in a given tax year, the sum of paid-up capital, the share premium account, revaluation reserve and reserves.

ORBIS

Orbis is a database of companies and other entities across the globe

[84] Reserves include: 1. Legal reserve, in so far as national law requires such a reserve; 2. Reserve for own shares, in so far as national law requires such a reserve, without prejudice to point (b) of Article 24 (1) of Directive 2012/30/EU; 3. Reserves provided for by the articles of association; 4. Other reserves, including the fair value reserve

Notional interest deduction

The notional interest multiplied by the capital considered eligible for the allowance is directly deducted from the tax base of the company, as if it were a professional expense.

Notional interest rate

Theoretical interest applied on the capital of a company. The notional interest does not constitute an accounting charge and therefore does not affect the income statement of the company.

Risk free rate

The risk-free rate is the interest rate an investor can expect to earn on an investment that carries zero risk. In practice, the risk-free rate is commonly considered equal to the interest paid on a government bond, generally the safest investment an investor can make.

Risk premium

The risk premium is the compensation that investors ask for investing into risky debt instruments. It can be assessed as a spread between yields on risky debt instruments and risk free bonds. The risk premium would be determined as the difference between the market rate and the risk-free rate.