VALUATION UNDER A WEALTH TAX

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1. Introduction

This evidence paper considers valuation issues under a net wealth tax and develops rough estimates of the costs taxpayers may face in establishing a precise estimate of their total wealth. Valuation issues are frequently cited in the literature as the most problematic aspect of wealth taxes. Sandford et al. (1975) devote an entire chapter to valuation issues under a wealth tax (pp.159–79). The Mirrlees Review (2011, p.347) and Thuryoni (2003, p.329) both highlight the problem of unevenness of application of wealth taxes and valuation difficulties. In Evans et al.'s (2017) chapter on capital and wealth taxes they emphasise the problems of valuation as well as disclosure (p.104). The Meade Committee (1978, pp. 354–58), Peacock (1963, pp.398–99) and Atkinson (1972, p.158) all consider the administrative problems with wealth taxes, focusing on valuation but also assessment and evasion. Valuation issues are examined in some detail in OECD (2018, pp.85–87), which also provides helpful examples of current and historical valuation practice.

This paper begins by outlining some general issues for valuation under a wealth tax, including our choice of open market value as the preferred valuation method and when it might be appropriate to deviate from that method. Next, the paper turns to an examination of the most problematic asset types from a valuation perspective and considers a range of solutions to manage these concerns. The paper concludes with some empirical estimates of costs of valuation. Clearly, the overall design of the wealth tax will impact on the magnitude of the valuation issues and costs – in particular decisions on the base. Valuation issues are a much greater concern under a broad-based annual wealth tax than under a narrowly-based tax with a high threshold along with specific exemptions for problematic assets, or under a one-off wealth tax as discussed in the Final Report of the Wealth Tax Commission (Advani, Chamberlain & Summers (2020), hereinafter 'the Final Report'). At the same time, however, it should be borne in mind that technological change can make contemporaneous valuation easier and cheaper by providing larger and more accessible databases on market transactions, as exemplified by property websites such as Rightmove and Zoopla and specialist internet auction sites.

This paper includes examples of how valuation concerns have been addressed in current and past wealth taxes, drawing on the International Background Papers listed at the end of this paper and other sources including the IBFD Country Tax Guides. We also draw on experience with related taxes such as the UK's Inheritance Tax (IHT), Capital Gains Tax (CGT) and Annual Tax on Enveloped Dwellings (ATED). It should be noted that in general valuation is more of a concern under an annual wealth tax than under inheritance/estate taxes because relatively few estates pay IHT and a deceased's property often needs to be properly valued and possibly sold anyway e.g. where the property (or its value) is to be distributed amongst multiple beneficiaries (OECD 2018, p.64 and citing Boadway et al. 2010). IHT is also generally a one-time valuation only, which means that administrative costs are incurred less often but also that there is more at stake on each valuation. These considerations would also be relevant to a one-off wealth tax as discussed in the Final Report.

2. ‘Open market value’ under a wealth tax

2.1. Introduction

The approach to valuation under a wealth tax ought to be one that aims to reflect ‘the price which an asset would fetch as between a willing buyer and willing seller in a market open to all comers’ (Sandford et al. 1975, p.159), referred to as ‘open market value’. In economic terms, this approach provides a measure of the immediate consumption that someone could finance if they chose to sell the asset (for further discussion of consumption, see Adam and Miller, 2020). As Sandford et al. rightly note, a wealth tax is a tax on resources and ‘market value is the natural measure of those resources’ and furthermore this measure is the least distortionary in terms of resource allocation (1975, p.159).

This consumption capacity justification comes into tension, however, when open market value is applied in practice, as highlighted below, insofar as it relies upon specific assumptions that seem to pull apart from the actual consumption that an individual could fund from the asset. This is obviously not the case with wealth in the form for instance of savings or assets such as commodities and securities which are easily convertible into cash. But other assets, such as shares in private companies and defined benefit pensions, will be valued according to assumptions about the market which may be purely hypothetical. Thus, whilst on a conceptual level consumption capacity could justify the use of open market value in the case of some assets, it does not work in respect of others.

The justification for relying upon open market value instead is grounded in the definition of wealth and the overarching rationale of a wealth tax. Rather than approaching wealth from a philosophical or other perspective (such as an economic perspective that accounts for human capital), the authors in the Final Report, appropriately in our view, defined assets in terms of legal rights to property (p.47). If a wealth tax in turn seeks broadly to tax wealth, then a consistent approach to valuation needs to be adopted (Final Report, p.57). It naturally follows from these considerations that open market value should be used. Beginning with clearly defined legal property such as cash savings and readily convertible assets, the open market value is clear (and it would be bizarre in this context if an alternative value were to be placed upon them). In order to ensure neutrality and equity, which both the authors of the Final Report (p.57) and we believe to be critical to the taxation of wealth (see Sec 2.4 below), then a consistent approach meanwhile should be adopted. Then if open market value is used for what would be understood as paradigm belongings, it follows that it should be the preferred method for valuating other assets also.

It is unsurprising then that the consensus in the literature, which is also reflected in current and historical international practice, is that the basis for valuing assets for purposes of a wealth tax should be open market value (e.g. Sandford et al. 1975, p.159). The OECD also take the position that ‘[a]ssets should ideally be assessed at their market value, defined as the price at which an asset would be traded in a competitive market’ (2018, p.85). Saez and Zucman similarly state: ‘The general principle guiding valuations should be that all assets should be assessed at their prevailing market value’ (2019a, p.32).

There are essentially three approaches that can be taken to determine open market value. In their simplest terms, these are based on (1) market transactions, (2) future income and (3) cost of replacement. These reflect the economic principles of price equilibrium, anticipation of benefits, or substitution, respectively (International Valuation Standards Council (IVSC), 2019, para 10.1). One can value an asset by way of comparison with an identical or comparable asset for which price information is available (market), by converting future cashflow to a single currency (income), or by calculating the cost to obtain an asset of equal utility, whether by purchase or by construction (cost) (see IVSC 2019, paras 20.1, 40.1 and 60.1).

All of these approaches target the same underlying concept, but they each reflect different practical constraints. A market transactions approach should be adopted for instance where: '(a) the subject asset has recently been sold in a transaction appropriate for consideration under the basis of value, (b) the subject asset or substantially similar assets are actively publicly traded, and/or (c) there are frequent and/or recent observable transactions in substantially similar assets' (IVSC 2019, para 20.2). This is the case with residential property, as outlined below. Meanwhile, the income approach should be adopted where '(a) the income-producing ability of the asset is the critical element affecting value from a participant perspective, and/or (b) reasonable projections of the amount and timing of future income are available for the subject asset, but there are few, if any, relevant market comparables' (IVSC 2019, para 40.2). This is the case with commercial property, as outlined below.

2.2. Existing uses of open market value

Open market value is the primary basis of valuation for a number of existing UK taxes, including Council Tax, IHT, CGT, and ATED (Pentelow, 2020; Mackie, 2020; Tennant, 2020). For IHT and CGT purposes, the general rule is 'the value at any time of any property shall for the purposes of this Act be the price which the property might reasonably be expected to fetch if sold in the open market at that time' (Inheritance Tax Act (IHTA) 1984, s.160; see also Taxation of Chargeable Gains Act (TGCA) 1992, s.272). This general statutory rule is subject to the further clarification that 'that price shall not be assumed to be reduced on the ground that the whole property is to be placed on the market at one and the same time' (IHTA 1984, s.160; TCGA 1992, s.272(2)). In other words, arguments about flooding the market by the sale are not taken into account. For CGT purposes, in the majority of cases, the market value simply will be the consideration agreed between the buyer and seller. However, a market value determination is required for disposals/acquisitions made otherwise by way of a bargain made at arm's length, e.g. a gift to a family member or a settlement into trust (TCGA 1992, s.17). Capital assets are also revalued for CGT purposes to market value on death (TCGA 1992, s.62).

The tax legislation provides further assumptions in respect of the information that is available to the hypothetical buyer. Section 168 of IHTA 1984 provides that the buyer would have available 'all the information which a prudent prospective purchaser might reasonably require if he were proposing to purchase them from a willing vendor by private treaty and at arm's length'. Section 273(3) provides similarly that in respect of the valuation of shares, 'there is available to any prospective purchaser of the asset in question all the information which a prudent prospective purchaser of the asset might reasonably require if he were proposing to purchase it from a willing vendor by private treaty and at arm's length'. The legislation in turn is supplemented by a number of assumptions which have developed through the caselaw, such as that for the purposes of the hypothetical sale, the vendor would divide the property

to be valued into whatever natural lots would achieve the best overall price; that all preliminary arrangements necessary for the sale to take place have been carried out prior to the valuation date; and the property is offered for sale on the open market by whichever method of sale will achieve the best price (Pentelow, 2020; Tennant, 2020; see further Mackie, 2020).

Open market valuation, however, can be manipulated – and to this end the tax legislation provides anti-avoidance rules. In situations where bundles of assets are held jointly, for instance, it may be the case that as a bunch the assets are worth more than the cumulative sum of the individual components. Thus, in the case of a family business, the market value of the total assets in the business may be worth less than the whole business together. In order to prevent individuals from fragmenting ownership so as to reduce the tax base, it has been necessary to introduce anti-fragmentation provisions, such as in respect of the 'related property' rules for IHT purposes (IHTA 1984, s.161; Pentelow, 2020). Anti-fragmentation rules are also necessary where high exemption thresholds are used for individuals in order to prevent shifts in ownership between family members (Chamberlain, 2020).

Finally, open market value is used as the main (though not the only) valuation approach for many non-tax purposes as well. One example is the law covering the compulsory acquisition of land (Fu and Clark, 2020). Another is the IVSC, which uses 'market value', equivalent to open market value, as one of six bases of value. The IVSC is the global standard setter for the valuation profession. There 'market value' is defined as 'the estimated amount for which an asset or liability should exchange on the valuation date between a willing buyer and a willing seller in an arm's length transaction, after proper marketing and where the parties had each acted knowledgeably, prudently and without compulsion' (International Valuation Standards (IVS) 104, p.8; Mackie, 2020). Another equivalent to open market value, namely 'fair value', is adopted in International Financial Reporting Standard (IFRS)13 (Mackie, 2020). IFRS 13 kicks in where another IFRS designates that fair value ought to be used, for instance with IFRS 2 in the case of share-based payment transactions. There 'fair value' is defined as 'the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date'. When seeking to draw upon the methods of valuation that are adopted for non-tax purposes however, caution is necessary as these may not strive to truly reflect the value of assets on the open market. Take the valuation of assets on divorce for instance (Nelder, 2020). Here parties may wish to acquire certain assets for sentimental purposes and the value that they are willing to place upon them would be higher than they would be able to fetch on the open market. Or conversely, parties in a divorce may accept a lower value for certain assets in order to finalise proceedings.

2.3. Challenges in determining open market value

The fact that open market value relies so heavily upon assumptions begins to give an indication of the inevitable issues that arise. Thus, where there is no active market, few transactions and/or where parties are not at arm's length, open market value will be difficult to determine and hence will be open to conflicting calculations.

To that end, although Sandford et al. conclude that market value 'may be the best measure we have of resources' the authors also discuss some of its 'many defects' (1975, p.159). These include that market value can be influenced by the form in which assets are held, e.g. quoted versus unquoted companies otherwise similar in size and profitability. Focusing just on market

value issues with quoted shares, Sandford et al. cite disproportionate movements in share prices from relatively small quantity sales; differences in prices for buyers and sellers and minority versus large block holders of shares; price fluctuations based on unfounded and malicious rumours; and share prices that exceed or are exceeded by the underlying tangible assets. More broadly, differences in the degree of willingness of either sellers or buyers can lead to price variance one day to the next, especially on unique assets including houses, shares in private companies, art and jewellery (1975, pp.159–60). Sandford et al. argue that these differences lead to ranges in value that must be recognised and, further, that the wealth tax should aim to use the bottom of the range for inherited or gifted assets and a maximum amount half way between the top and bottom amounts for purchased assets (p.161).

The OECD (2018) takes a similar approach, stating that 'the biggest practical difficulties with net wealth taxes is determining the value of infrequently traded assets' and concludes that market values should be used but 'possibly at a slightly discounted rate' (p.85). For example, the OECD suggested that 'the tax base could be limited to a fixed percentage of that market value (e.g. 80–85%) to prevent valuation disputes but also to take into account certain costs that may be incurred to hold or maintain the assets' (p.86). Of course, this is not actually a solution to valuation since a value still needs to be determined in order to assess a discounted percentage of it. The OECD recommended comparable valuation approaches across asset classes to avoid distortion between assets but suggested insured values could be used instead of market values for assets such as artwork and high-value jewellery that are infrequently traded and therefore hard to value (p.86). The Labour Chancellor Denis Healey's 1974 Green Paper adopted open market value on the day on which the property is to be valued as the general valuation approach for its proposed wealth tax, but with supplementary rules for particular types of assets (p.14). The Meade Committee took a similar approach, describing an open market valuation for an annual wealth tax as theoretically preferable but then commented favourably on the use of standardisation methods for certain problematic asset types including pension rights, valuable personal chattels, business assets, and real property on the grounds of reduced administrative and compliance costs, and reduced uncertainty. The Committee stated '[i]t is proper that these considerations should on occasion take precedence over the desire to obtain a genuine open market valuation' (1978, p.355).

Finally, although open market value has been the primary basis for valuation adopted by other countries for their wealth taxes (Sandford et al. 1975, p.159), many countries then depart from this ideal to some degree by providing preferential valuation rules or discounts from open market value for particular types of assets including primary residences, business assets and agricultural property (see OECD 2018, p.85 and discussion in section 3 below).

2.4. Deviations from open market value

On the basis of the foregoing, we propose adopting open market value as the preferred primary basis of valuation for a wealth tax, whilst also recognising other considerations may justify deviating from it, particularly with certain problematic asset types – as discussed further below. Accepting that nothing which deviates from the general approach will provide an unimpeachable option, it is prudent to briefly set out criteria by which to judge deviations from the ideal. The goal should be to assess whether deviations better fit the below (non-mutually exclusive) criteria than open market valuation.

It is also important to recognise that the discussion of valuation does not arise in a vacuum independent of political or other concerns around the structuring of a wealth tax. Thus deviations from open market valuation might be deemed more or less desirable when combined with other design features. For instance, under a banded system of charges (discussed below), valuation issues would be alleviated near the middle of band (where small differences in valuation would not affect the charge at all) but would be exacerbated near the thresholds (where small differences in valuation could result in a discrete change in the level of charge). If there are large nil rate bands, that might alleviate valuation issues for a large chunk of society, but it would create 'wealth splitting' issues as are seen in the case of 'income splitting' amongst family members. Whilst conscious of these issues and the need accordingly to be flexible, this paper will proceed to discuss valuation in its purest form in order to give a neutral surface on which these and other stones can be added to form a rich mosaic. It is only by knowing the starting trajectory that the consequence of any deviation can be understood.

In the Final Report, the authors reject adopting departures from the open market value (p. 57) 'because any simpler approach is liable to lead to unfairness in individual cases'. They are 'liable to generate distortions by asset type and opportunities for avoidance' (p. 98) and 'there is evidence that they produce horizontal inequity that results in resentment and undermines public support' (p. 98). To ensure that no deviation would be needed in the case of an annual wealth tax, the authors consider that two conditions would need to be satisfied in respect of design. One, that a 'threshold that is high enough to reduce the volume of taxpayers to the point where the number of valuations required each year is manageable from the perspective of both HMRC and the capacity of professional valuers' (p. 99) and two, that 'a rate that is high enough that the tax collected from each taxpayer is a sufficient multiple of the (mostly fixed) costs of valuation to make these costs worthwhile' (p. 99).

Policymakers considering the introduction of an annual wealth tax without satisfying these conditions would, however, need to countenance departures from open market value and to that end a discussion here of the relevant criteria is merited.

Certainty

The rule of law, in its thinnest conception, requires that people ought to be aware of their tax liabilities (Daly, 2020, Ch. 3). Whilst absolute certainty is unattainable, and therefore not a requirement of the rule of law, there ought to be a sufficient degree of precision in order so that people can plan their lives. Any method of valuation which fails to inform individuals of their liabilities with a sufficient degree of precision falls foul accordingly of the rule of law. Where rules are uncertain meanwhile, they incentivise individuals to 'put forward figures which are right at the bottom end of any possible range of figures' (Sandford et al., 1975, p.175). This risk is highly relevant to valuation of assets for a personal wealth tax, which may rely to a great extent on taxpayers' self-assessment of value and general compliance with the tax.

Horizontal equity

Horizontal equity is generally taken to be an important consideration when designing tax rules, though it echoes also a thin conception of the rule of law, in that being ruled by law requires that the laws are equally applicable to all that fall within their scope. To that end, tax laws should not make unjustified distinctions between similarly-placed taxpayers, although this of

course raises the question of which are the relevant criteria for similarity. Certain valuation rules can fall foul of this goal, however, where they treat similar assets dissimilarly such as using different unit values for developed as against undeveloped land. To that end, it is interesting to note that the German Federal Constitutional Court ruled the valuation of assets subjected to the German wealth tax was unconstitutional because the valuation preferred immovable property over other forms of property, and this ruling played a key role in the eventual abolition of the tax (Rehr, 2020).

Neutrality

When introducing or reforming taxes, efforts should be made to ensure that undesirable or unintentional economic distortions are avoided. To that end, the Mirrlees Review (2011) highlighted 'the importance of neutrality as a benchmark' when designing taxes: 'While we don't always want neutrality, it is often valuable and will always be an important benchmark for assessing the system' (p.45). In the case of a wealth tax, the problem that could arise from having favourable rules for particular assets for instance would be that people would shift their activities in response by investing in those favoured assets (Advani and Tarrant, 2020). As the OECD note (2018, p.61), and as will be discussed in more detail below, 'many categories of assets are exempt under net wealth taxes or benefit from reliefs or preferential valuation, which provides incentives to alter portfolio allocation away from that which would be optimal in a no-tax world'.

Neutrality and horizontal equity are often linked, in that a lack of treating persons, transactions and arrangements similarly can distort taxpayers' decisions. But the neutrality precedes horizontal equity, and the latter is *not* a precondition of the former. Even where investment decisions are not distorted, or even before they become distorted, the fact of dissimilar treatment alone undermines equality before the law.

Administrative and compliance costs, from both the tax authority and the taxpayer perspective

Sandford et al. argued that the choice of valuation methods in practice must be influenced by the need to keep down administrative and compliance costs, and reduce as much as possible uncertainty about, and delay in arriving at, valuations (1975, p.161). The Meade Committee echoed these considerations in recognising that standard valuation approaches for problematic asset types could justifiably take precedence over an open market valuation (1978, p.355). The OECD simply stated that valuation rules 'should be kept simple' (2018, p.86).

Ultimately, the concern would be that a blanket rule imposing a particular approach, market, income or cost, and a set frequency, for instance yearly, to valuation may result in administrative and compliance costs for particular asset types that, if not mirroring the charge to the annual wealth tax itself, may represent a large percentage of the overall value of the asset. In short, the costs could amount to a further 'effective' tax. We present rough estimates of the costs taxpayers may face below in section 4.

One option accordingly would be to use the same rules for valuation that apply in relation to similar taxes. As the OECD (2018, p.87) has put it: 'As is often the case, valuation rules that are used for other taxes, in particular for taxes on residential property and inheritances, can be

used for net wealth tax purposes as well.' Although the open market value is used for other taxes, it does not immediately follow that the valuations used there should always be used for an annual wealth tax, even if this would be administratively convenient. There may be manipulation which renders the figures unreliable. Take for instance the value that is placed upon assets for IHT. There is an incentive, when utilising Business Property Relief, to place a high value on assets so as to reduce future CGT liability when the assets are sold (Pentelow, 2020). In this way an asset is transferred on death at an inflated value, meaning that the base cost for a future disposal is similarly inflated thus reducing the future margin between the sale proceeds (or open market value) and the base cost.

Likelihood of disputes

Troup et al. (2020) propose that the likelihood that disputes could arise where a value is attributed to an asset which departs from market value should be taken into account when devising any valuation rules. It should go without saying that it would be undesirable if the exception proved more vexatious than the rule! The international background papers in this series frequently cite litigation over valuation as an issue under their wealth taxes (see e.g. Rehr, 2020 on Germany, and TA and Vanvari, 2020 on India). As Pentelow (2020, p6) stresses in respect of the open market valuation in the UK the 'full range of situations cannot be captured within the legislative provisions and as a result the disputed valuation range can be very wide, not least because of the subjectivity of the assumptions which are necessarily used in any valuation'. Banding reduces the scope for ATED disputes, but it does not eliminate it.

Time required to make a valuation

As noted above, Sandford et al. argued that the choice of valuation methods in practice must be influenced by the need to reduce as much as possible delay in arriving at valuations (1975, p.161). Adopting the market value rule in the case of IHT in the UK results in significant delays in all but the least complicated cases, as Troup et al. (2020) note.

Ensuring that the valuation process is timely is linked to the importance of certainty in that people ought to know in as timely a manner as possible the extent of their liabilities, as noted by Sandford et al. (1975, p.161). It is also linked to costs in that delays 'always increase administrative and compliance costs' (Sandford et al., 1975, p.161).

Frequency

In order to reflect open market value, asset valuations would ideally be contemporaneous. However, this may not be practicable in respect of all asset types, as will be noted below. In the case of an annual wealth tax, care should be taken in order to ensure that the frequency of valuations is sufficient so that the values at least bear some resemblance to the current open market value of assets. Famously, valuations for Council Tax purposes have not occurred in England since 1991 and in Wales since 2003 (Mackie, 2020).

Annual valuations can be expensive and time consuming, as can, to a lesser degree, one-time valuations for a one-off wealth tax. The OECD suggested some other approaches which could simplify the process (pp.86–87):

> *In some cases, values for specific asset classes could be treated as fixed for a few years (e.g. France in the case of furniture, where estimated value is valid for three years). Alternatively, the value of taxpayers' total net wealth could be treated as fixed for a few years before being re-assessed* (McDonnell, 2013).

In the UK, ATED and the pre-owned asset tax (see Finance Act 2004, Sch.15) provide an example of non-annual valuations used for certain tax purposes, with valuations required every five years (see further Pentelow, 2020).

Where valuations take place at a particular date, such as 1 January in France (Tirard, 2020) and Norway (Banoun, 2020) or 31 December in Spain (Ramallo, 2020), it is important to appreciate that even yearly valuations may not always give an accurate reflection of value across the whole year, as these will only reflect the value of the assets at a particular time. Assets that are susceptible to severe fluctuations, such as start-up companies (Ryan, 2020), may present problems in this respect. Intra-year fluctuations in a system of valuations at one point in a year as a result can give rise to under and overvaluations and hence lead to horizontal inequities.

Robustness

Whilst it is 'likely that no tax is perfectly robust to planning' (Devereux and Vella, 2018, p. 477), in order for taxes to be effective it is necessary that they are sufficiently robust to tax avoidance and planning. In the context of valuation for an annual wealth tax, there will necessarily be aspects which are open to gaming. For instance, the Meade Committee highlighted the important issue of problems with taxpayers self-assessing the value of their assets:

> *If taxpayers are required to value all their own assets with very little guidance other than the valuation should be "open market", a considerable burden of compliance costs is placed on the conscientious taxpayer and the way is open for much horizontal inequity between taxpayers of various degrees of integrity and for a decline in tax morality* (1978, p.356).

Scalability

The method of valuation that is adopted ought to be one which feasibly can be applied at scale if the goal is to have a broad-based wealth tax (in terms of asset types). It is insufficient for a valuation method to be effective on a small scale but particularly costly, administratively complex or accessible only by a few (owing to a lack of professionally qualified valuers with expertise in valuation of certain assets for instance).

2.5. Banding

A 'banded' system of charges could be one administrative strategy for addressing valuation problems, and is mentioned in the Final Report (pp.58,60). Under such a system, the same charge would be applied to all taxpayers within each specified 'band' of total wealth, regardless of differences in their precise level of wealth within the band. Banding is already used in the UK in respect of ATED, wherein valuers need only to allocate an asset to a particular band of values rather than arriving at one specific value as is required for an *ad valorem* tax that is based on the precise value of whatever is being taxed (Pentelow, 2020). Banding does not

actually deviate from open market valuation, however; it requires in the first instance some plausible means of conducting an open market valuation exercise.

Banding has the advantage of accommodating the inherent imprecision of valuation exercises (Pentelow, 2020) and thus reducing the scope for disputes. From a design perspective, banding still allows for the incorporation of progressive rates, as occurs in the case of ATED in the UK although it effectively results in a cap on the maximum charge, which makes this approach regressive *within* the top band (and see Loutzenhiser and Mann, 2020). However, banding would only be useful where the scope for dispute about valuation is moderate. Where there is scope for significant differences, then banding becomes unhelpful. For instance, whereas residential property can be approximated within a narrow range, shares in unlisted start-up companies can reasonably be valued at significantly different amounts. When applied to multiple assets significant differences may also arise such that banding is unhelpful – for instance where there is a moderate range for a multitude of assets meaning that the overall range is significant. For those whose total wealth falls just above the threshold for a band meanwhile, it creates gaming opportunities whereby taxpayers are incentivised to bunch below the threshold. Of course, for those whose total wealth falls somewhere near the mid or upper parts of a band, there is little incentive to undervalue – this being a serious virtue of a banding approach.

With respect to a wealth tax, a design question which arises is whether banding is used for the entirety of a person's wealth or whether it is simply used in respect of particularly difficult to value assets. As will be elaborated below, open market valuation only encounters serious difficulty with respect to certain asset classes, rather than in respect of wealth generally. To that end, if banding were to be proposed, it would seem more desirable at first that it should only be used in respect of those difficult to value assets. With value ranges for these assets identified, the mid-point within the range could be used for those assets and thereafter aggregated with the precise values of other assets.

However, having a different regime for such assets would lead to definitional issues as taxpayers would contort legal arguments in order to receive favourable treatment. Consider for instance the successful argument of the executors in *HMRC v The Executors of Lord Howard* ([2014] EWCA Civ 278, discussed in Loutzenhiser, 2019, p.713), in which a valuable painting on display in Castle Howard was successfully argued to be 'plant' of a business and a wasting asset exempt from CGT. Meanwhile, in order to be entitled to use Agricultural Relief (IHTA 1984, ss.115–124) on a farmhouse for the purposes of IHT, it is necessary to demonstrate that the property is used as agricultural property. This inevitably gives rise to cases such as *Lloyds TSB Private Banking plc v Twiddy* ([2006] 1 EGLR 157) where a lifestyle farmer sought to claim that his primary residence was in fact agricultural property.

In addition, applying bands on an asset-class-by-asset-class basis could drive taxpayers to vary their asset mix: taxpayers would have incentives to liquidate assets which would otherwise attract additional taxation and re-invest them into other classes where any marginal increase in value (up to the band threshold) attracts no extra tax liability. Thus it may constitute a deviation from open market valuation in the sense that it would violate the neutrality principle discussed in Section 2.4.

Banding can reduce the administrative imposition on taxpayers (and the tax authority), but at the cost of generating inequality within bands (by charging the same fee to taxpayers with very different levels of wealth). The larger the possible range of valuations, the less effective a banding regime is at achieving this first aim, as it is less likely to be able to capture individuals in the same range as their true wealth. Hughson (2020) discusses the possibility of a banded regime in much more detail.

3. Asset types raising particular valuation concerns

3.1 Pension rights

Chamberlain (2020) describes the most common types of pensions typically found in the UK – defined contribution (DC) and defined benefit (DB) schemes. Other pensions, e.g. non-registered plans, are also used, along with other forms of deferred compensation arrangements including share schemes and options. This evidence paper considers possible valuation approaches for pension rights, focusing on DC and DB pensions and especially on the more problematic DB pensions. The analysis draws on experience under other UK taxes, and particularly the Lifetime Allowance (LTA) for income tax purposes. Non-tax valuation situations are also considered. As noted in Chamberlain (2020) and Loutzenhiser and Mann (2020), pension rights have typically been fully exempted from current and historical wealth taxes, which means there is little international experience with pension valuation in this context to draw upon.

For personal income tax purposes, DB pensions are valued for the LTA with a crude measure approximated by taking 20 times the pension benefit payable plus a lump sum defined under the relevant pension scheme (Ramm and Eames, 2020, citing Pensions Advisory Group, 2019). According to Ramm and Eames, this value is likely to differ, oftentimes largely, from more sophisticated methods of determining present value of the DB entitlements as personal characteristics are not considered and macroeconomic developments change over time. A variant of this approach is used for pension commutation (Ramm and Eames, 2020).

Valuations of DB pensions are also made for non-tax purposes including pension transfers and divorce. The valuation of pensions for divorce is explored for present purposes at some length as it provides useful insight into the challenges involved in valuing pensions for a wealth tax. As described in detail in the Pensions Advisory Group report (2019), valuations are used to divide pensions for divorce purposes according to either the potential income value or capital value (p.30). A Cash Equivalent (CE) figure can be obtained from the pension provider to assist in this process. A particular form of CE figure, the Cash Equivalent Transfer Value (CETV), can also be determined for the purposes of transfers between pension schemes, as noted in the Final Report (p.59). For a DB scheme, the CE 'is the value placed on the member's benefits by the scheme actuary, using assumptions such as future investment returns, inflation and life expectancies' (Pensions Advisory Group, 2019, p 72). However, CEs suffer from many limitations and may not be sufficient to achieve a fair outcome between the parties on divorce (Pensions Advisory Group, 2019, para 6.11). For example, if the DB pension is underfunded, this will reduce the CE figure such that it may not reliably reflect the value of the pension rights (Pensions Advisory Group, Appendix J). Another option is to engage the services of a specialist Pensions on Divorce Expert (PODE). A PODE's opinion and valuation will take into account

general assumptions e.g. on inflation and mortality, along with individual scheme characteristics, which entails making assumptions on such factors as (a) the retirement age, (b) pension revaluation for DB-schemes with final salary linking, (c) changes of pension benefits after retirement, (d) lump sum and commutation and (e) pension increase provisions (Pensions Advisory Group, 2019, Appendices O and Q). Further adding to the difficulty in this area, experts can disagree on the appropriate financial, economic and demographic assumptions to be used in the preparation of PODE reports as well as the appropriate valuation methodology (Pensions Advisory Group 2019, Appendix O). In summary, whilst DB pensions can be, and indeed often must be, valued for divorce purposes in order to achieve an outcome that is fair overall to both parties, it can be a highly complex, fact-dependent, contentious process requiring specialist skills.

How then should pension rights be valued for purposes of a wealth tax? The aim is 'to measure an individual's pension wealth "today", as opposed to the potential pension wealth on retirement' (Ramm and Eames, 2020). The present value of DC pension wealth is given by the value of the accumulated contributions in the pension pot plus the return earned on the investment, which is readily available and regularly reported to pension fund members (Ramm and Eames, 2020). This is generally a cost approach to valuation.

Although for purposes of the Final Report and also for our analysis of costs in section 4 below pensions may be broadly categorised as 'easy to value' financial assets, determining the present value of a particular individual's DB pension for a wealth tax can be problematic, as it raises many of the same valuation issues just discussed in the non-tax contexts. As Ramm and Eames (2020, p3) state, '[i]n the context of a net wealth tax, the value of one's pension entitlement(s), or pension wealth, is given by the present value of the discounted future cash flows provided by the pension entitlement(s)'. This is an income-based approach. DB pension valuation on an entitlement basis requires assumptions 'about the macroeconomic environment (including interest rates and inflation) and demographic developments (including mortality rate and retirement age) since contributions and benefits are relatively more unrelated' (Ramm and Eames, 2020). In theory it would be preferable to use a more tailored valuation, based on assumptions that take into account the *particular individual's circumstances* and especially expected lifespan. This presumably would require data on e.g. the individual's family history, medical history and lifestyle (is she a smoker? a drinker), which in practice would likely be too expensive, difficult or time-consuming to do. This leaves the valuation process, and the individual's tax charge, dependent on general demographic and macroeconomic assumptions. This may raise equity issues where these general, broad-based assumptions do not fairly reflect a particular individual's circumstances.

Alternatively, Saez and Zucman argued for a 'simple' approach to valuing DB pensions for wealth tax purposes:

> *In the case of defined benefit pensions not yet in payment, the value of assets could be apportioned in proportion to the accrued benefits of each worker using simple formulas based on current salary, tenure, and age. The key requirement is that the total current value of each defined benefit fund should be distributed across beneficiaries.* (2019a, p.35).

However, this valuation method eschews assessing the entitlement value of the DB for each individual (the ideal aim for a wealth tax) in favour of a method that effectively involves dividing

up the assets of the underlying fund. Further, this may produce a low valuation where the DB scheme is underfunded; as already noted, a CE figure provided by the DB pension provider can suffer from the same limitation (and others).

In summary, valuation issues may explain in part why pension rights have been exempted from other wealth taxes, at least in respect of DB pensions, though liquidity, administrative and political reasons are also important concerns. However, a value of an individual's pension rights for wealth taxes can be arrived at using methods found under existing tax and non-tax situations. Valuation is relatively straightforward for a DC pension, which are similar in form to other types of savings and portfolio investment. DB pensions are more problematic, but can be valued by adopting either a crude measure such as that used for LTA purposes, a Cash Equivalent figure with its inherent limitations as suggested in the Final Report, a more sophisticated model such as those used by specialists in the context of divorce, or with a Saez and Zucman approach based on apportioning the current value of the underlying DB scheme assets.

3.2 Primary residences and other non-agricultural property

The 1974 Green Paper for a wealth tax included owner-occupied homes within the scope of charge on the basis that '[t]hey are clearly realisable assets and their exemption would be unfair to those wealthy people who live in rented accommodation' (p.9) and in principle proposed valuing owner-occupied homes at their market value (p.14). The Meade Committee took a similar position, focusing on equity reasons (1978, p.354). Sandford et al. agreed that no exemption should be given for owner-occupied houses, again on equity grounds (1975, pp.134–35). The authors suggest this is a factor best taken into account in deciding on the threshold for the tax (p.134). Nevertheless, in European wealth taxes, primary residences typically have been eligible for some form of relief in the form of tax allowances or preferential valuation rules. As examples of the former, France offers a 30% tax allowance and Spain offers an allowance up to EUR 300 000 (OECD 2018, p.83). On the latter, Switzerland taxes primary residences at 60% of its market value and Norway values primary residences at a mere 25% of their estimated market value; it should also be noted that both Switzerland and Norway have relatively low general exemption thresholds (OECD 2018, pp.83-84). Argentina exempts dwellings where the value does not exceed ARS 18 million (approximately £200,000) (IBFD Country Tax Guides, Argentina, para 5.1.2). In Venezuela, taxpayers' houses, if registered as their principal house before the tax administration, are exempt assets (IBFD Country Tax Guides, Venezuela, para 5.1). In contrast, primary residences were exempt under the Irish wealth tax (Sandford and Morrissey 1985, p.22). It is likely that the fairly widespread use of these reliefs is driven by political, historical, ideological and cultural factors, and possibly liquidity concerns, as opposed to concerns related to valuation.

When determining the open market value of property, a distinction is made generally between valuation of residential property and commercial property, with the former being based on a comparability analysis with similar properties and the latter valued on the basis of income. As such, a reasonably settled distinction arises in respect of the approach to be adopted in respect of residential and commercial property, the former taking a market transactions approach, the latter an income one.

As noted by Mackie (2020, para 4.2), 'for a commercial property investment, such as an office which is let to a tenant on a twenty-year lease with five yearly rent reviews, an income approach would be used to capitalise the rent received in order to arrive at an investment value for the property.' On the other hand for a residential property investment, it is likely that it is a market transactions approach which will be adopted, and whilst a certain number of factors are objective (such as size of house, number of bedrooms, size of plot etc.) there will be a greater emphasis on the application of subjective judgements by the valuer, particularly in the application of comparable sales where location, provision of local facilities, privacy, noise etc. can all play a part' (Mackie 2020, para 4.3). A similar approach is adopted in other countries. For instance, in Norway (Banoun, 2020) residential properties are normally valued based on calculated square metre prices (calculated in turn on the basis of statistics for residential properties sold in the area). Commercial property on the other hand is calculated on the basis of an estimated letting value.

In the UK, property already needs to be valued for four categories of taxes: on transactions (CGT, IHT and Stamp Duty Land Tax (SDLT)), income (Income Tax/Corporation Tax), occupation (Business Rates and Council Tax) and ownership (ATED) (see Mackie, 2020). Valuations of property for the purposes of CGT, IHT, SDLT and ATED are specifically covered in the Red Book under UK Valuation Practice Guidance Application (UK VPGA) 15 (Mackie, 2020). This Standard provides that the basis of value to be followed (generally a derivation of market value) is that as set out in each of the various statutes, as supplemented by case law which elaborates upon the meaning of market value (Mackie, 2020). For instance, in *IRC v Crossman* [1937] AC 26 it was held that for tax purposes what is considered is a hypothetical sale and not an actual one. Valuations of property for the purposes of taxes on income are required in myriad instances, such as when claiming capital allowances (see for instance CAA 2001 s562(3)) or for the purposes of tax on employment income where an employee receives an asset as part of a remuneration package (see for instance Income Tax Earnings and Pensions Act 2003, Pt.3, Ch.10; Mackie, 2020). Complications arise where a higher value may be sought to be placed upon the property so that greater capital allowances may be claimed, which in turn would impact the tax payable on transactions such as SDLT (Mackie, 2020). Business Rates levied on non-domestic property, meanwhile, are calculated on the basis of rent that the property could have been let for on a certain date set out in law. Council Tax on the other hand is based upon market value, albeit that in England the value is based on the price that the property would have been sold for on the open market on 1 April 1991 and in Wales on 1 April 2003. These assessments are based upon a number of factors and there is scope for subjectivity and diversity of opinion.

Further, the availability of comparison websites (such as Zoopla and Rightmove) today along with a more frequent valuation process would likely reduce, but not eliminate, the scope for disagreement. These comparison websites helpfully identify comparable properties and provide information about recent sales and trends in the area. Further, these comparison websites pick up information from the Land Registry on past transactions for the relevant properties themselves, which it can then index to attempt to reflect current market value. This information is invaluable for buyers and sellers, and by extension it would be useful for tax valuation purposes too. It should also be noted that the authors of the Final Report advocate having valuation of residential property conducted by the Valuation Office Agency (VOA) unless the taxpayer specifically requests to provide their own valuation (p. 59). Thus, valuation cost would not ultimately be a problem for most individuals. However, as discussed below in

section 4, a substantial share of individuals would be affected if the VOA were not to take this responsibility.

In summary, open market valuation works reasonably well in respect of primary residences and other non-agricultural property, where the former uses principally a market transactions approach and the latter an income approach. The issues that are presented by subjectivity in the valuation process would be significantly reduced if there were much more frequent valuations and hence significantly more datapoints for comparison. More advanced technology and algorithms today should also assist considerably.

3.3 Private business assets including shares in private companies

The 1974 Green Paper recommended against exempting business assets from the tax base or offering specially favourable terms: 'The wealth tax would lose much of its desired social effect if a substantial proportion of those who are among the wealthiest in the country were not come within its scope' (p11). Nevertheless, exemptions or some form of tax preferences for business assets are common under current and historical wealth taxes and have been justified on the basis of encouraging entrepreneurship and investment in productive assets (OECD 2018, p.85). The Irish wealth tax provided a deduction of 20% of the market value of 'productive assets' including business assets and shares in a trading company; the discount was 30% for hotels (Sandford and Morrissey 1985, p.23). France and Spain provide exemptions for business assets (OECD 2018, p.83 and IBFD Country Tax Guides) as does Algeria (IBFD Country Tax Guides, Algeria, para 4.1). Other countries have taxed them (eg Germany, Norway, Luxembourg and Ireland) but offered some form of preferential tax treatment in the form of preferential valuation rules, the exemption of a proportion of assets, the exclusion of certain assets or a lower tax rate (OECD 2018, p.83). In Argentina, resident companies are subject to the wealth tax, and shares in such companies are exempt from tax in the hands of shareholders (IBFD Country Tax Guides, Argentina, paras 5.1.1 and 5.1.4).

Proceeding on the assumption that business assets should not be exempted from the tax base and should be valued for wealth tax purposes at open market value, it is worth recalling that open market values are already placed on business assets in the UK for tax and non-tax purposes. Values are placed on shareholdings for tax purposes, such as for IHT on death, in respect of some intervivos gifts and in relation to some trusts, and in respect of CGT for non-arm's length transactions (Nelder, 2020). Indeed, values are also placed on shareholdings for non-tax purposes such as divorce, sales of businesses or shareholdings to third parties, shareholder litigation and accounting (Nelder, 2020).

A wealth tax on private business assets can give rise to difficult issues of valuation, however. In the Final Report, shares of private companies are included in the 'hard-to-value' category of assets (and see further section 4 below). These issues do not arise so much in terms of larger companies (though of course extreme examples will arise where valuation is significantly contested), but principally in respect of the millions of UK smaller private companies and unincorporated businesses (see Loutzenhiser and Mann, 2020, and Final Report, pp.59-60). Open market valuations for shares in quoted companies for instance can draw upon the quoted share price (Ryan, 2020). To that end, Regulation 2 of The Market Value of Shares, Securities and Strips Regulations 2015 provides that the market value of quoted shares shall be (on a day the Stock Exchange is open) the lower of two prices shown in the Stock Exchange

Daily Official List for that day as the closing price for the shares, securities or strips on that day plus one-half of the difference between those two figures. Where the Stock Exchange is closed, the value is calculated on the latest previous day on which it was open. In essence, for quoted shares, a market transactions approach to valuation can be adopted.

For unquoted businesses, open market valuation is computed by way of a comparability exercise, which is principally a market transactions approach (though the valuation requires reference to income). The value placed on a comparable company is determined through the use of benchmarks such as Market Capitalisation/Profit After Tax ('PAT') before then apportioning value to the relevant shareholding (Ryan, 2020). These benchmarks, however, need to be adjusted to reflect market conditions in respect of relative risk and growth profits of the companies being compared. Adjustment may also be required, according to Ryan (2020, p.12), 'if the asset being valued is the whole of the business, or a controlling stake in a business, as capitalisation multiples derived from listed companies will incorporate a discount to reflect their minority status'. The calculation of this discount will in turn be dependent on the jurisdiction in which the listed shares are quoted – less of a discount in territories with strong minority shareholder protection, but more in jurisdictions with less shareholder protection (Ryan, 2020; see further Nelder, 2020 on lack of control (DLOC) and one for lack of marketability (DLOM)). Saez and Zucman (2019a, p.33) suggest that valuations for large private businesses can also draw on the 'financial system to put market values on many of [the] assets': 'Large private businesses (such as Uber or Lyft before their IPOs) are typically valued on secondary markets and their stock transactions are centrally registered.' Thus, a market transactions approach can be adopted for these larger private companies where information allowing for a comparability exercise is available.

The millions of smaller private businesses in the UK, however, present potentially a much greater problem in terms of determining open market value on account of a lack of information on the financial markets. Although the authors of the Final Report categorise shares of private companies as hard-to-value assets, they reduce the scope of this problem by characterising a large number of personal services companies as essentially deriving value from the owners' human capital. A similar approach could be taken to a large percentage of unincorporated businesses, which are also characterised as hard-to-value assets in the Final Report. This seems a reasonable approach, as according to the Department for Business, Energy and Industrial Strategy Business Population Estimates 2020, of the approximately 6 million private businesses in the UK, an estimated 76% (comprising 3.3 million sole proprietorships, 946,000 companies and 311,000 ordinary partnerships) did not employ anyone aside from the owners. Under this approach, a large number of small private businesses could justifiably be excluded from concerns over valuation for a wealth tax, apart from the value attributed to tangible assets, which can be assumed to be relatively low for many such businesses (and see further section 4 below).

By way of international comparison, Switzerland has adopted a formulaic method of valuing private businesses (Eckert and Aebi, 2020; see further Nelder, 2020). A company's value is determined by the combination of the weighted average of its 'earnings value', determined by capitalising the adjusted average net profit of the last two or three years with a capitalisation rate, and its book value. Holding companies or property companies meanwhile are valued based on the net asset value of the underlying assets (see also Tirard, 2020). Thus whilst in the case of the latter a cost approach is adopted, a combination of cost and income is used in

respect of the former. Saez and Zucman (2019a, p.33) favourably cite the use of this approach, underlining the fact that the use of formulae avoids the need for yearly costly valuations. There are obvious flaws in the Swiss approach, however, such as the reliance that it places upon profits (thus leaving open the problem of valuing loss-making companies (Nelder, 2020) and the inequities across different industries that result from the use of a uniform capitalisation rate (Eckert and Aebi, 2020). Book values meanwhile are problematic as they may not reflect current asset values but rather the original cost, intangible assets may not be recorded (Ryan, 2020) and, in the case of distressed companies, would overstate the amount that the assets would likely fetch on sale (Ryan, 2020). Whilst a cost approach can be a legitimate approach for determining open market value, the book value approach here does not incorporate fully the cost of replacing the assets. Thus, if a formulaic book value approach is adopted, steps must be taken to ensure that the asset values reflect current values.

Issues also arise in respect of valuing particular businesses assets, such as intellectual property. Market implied transaction prices can be used as the basis for valuing the intangible asset, but the problem is that 'the number of benchmark prices that can be obtained is still limited' (Ryan, 2020). Even where reliable benchmarks are available, the 'characteristics of IP assets vary considerably' such that 'it is hard to adjust benchmark values to reflect the differences between the different assets' and are context dependent such that 'care must be exercised when using a benchmark value for an intangible asset, as the price paid in one context may not be representative of the value of the same asset in a different context' (Ryan, 2020, p.16). The result is that disputes with tax authorities about valuation are inevitable, as is seen in the parallel context of valuation of intellectual property for transfer pricing.

Could an option for paying the wealth tax in specie deal with valuation disputes with respect to private company shares in particular? Saez and Zucman (2019 and 2019a) advocate the option of payment in specie for their wealth tax on billionaires as an option to address valuation disputes (and also liquidity concerns: see Loutzenhiser and Mann, 2020, and Meade Committee, 1978, p.360). For example, if a taxpayer has other assets in excess of the wealth tax exemption threshold, and is firmly in the top tax rate band of the tax e.g. 2%, then if there is a disagreement on whether the taxpayer's shares in a private business are worth £50 million or £100 million, the disagreement can be solved by the payment in specie of 2% of the shares. The government can then decide whether to hold onto its 2% shareholding and perhaps look to increase its shareholding year-on-year or sell the shares to the highest bidder. Importantly, this would not alleviate the need to value the shareholding for other purposes, notably CGT in respect of the transfer, which greatly undermines the supposed positive benefits of in specie payments in terms of minimising valuation issues. Moreover, Saez and Zucman have in mind a large exemption threshold so their focus is on a relatively small number of taxpayers (c.75,000 families) and thus a small number of very valuable private businesses (e.g. Cargill or an unprofitable but highly valuable start up) (2019a, pp.33-34). It is highly questionable whether their approach could be scaled up for a larger number of private businesses in the UK.

In short, open market valuation should be adopted generally in respect of valuing business assets. Deviations from this general approach will be necessary for difficult to value private businesses, principally smaller private businesses for which the financial markets do not provide information. In specie transfers do not present a readily available fix to the issues in respect of smaller private businesses. Instead, a simplified approach to valuing large numbers of private businesses such as personal services companies and unincorporated businesses that

excludes value attributed to the owners' human capital but includes the value of tangible business assets has the potential to greatly reduce the scope for valuation issues. For other private businesses, professional valuations at the level of the business as opposed to at shareholder level could be obtained (and see section 4 below on costs). Alternatively, a formula based on book value as adopted in Switzerland seems a plausible option. Such a formula provides certainty for taxpayers, is administratively efficient, is unlikely to lead to significant disputes, is quick, scalable and comes generally with frequent valuations, albeit at a cost in terms of horizontal equity (with under and overvaluations) and robustness (with the ability to game values) meaning that anti-avoidance rules and measures to mitigate hardship at the margins would be needed.

3.4 Agricultural property

As discussed in more detail in Loutzenhiser and Mann (2020), commentators including Sandford et al (1975) and the Meade Committee (2011), as well as the 1974 Green Paper, generally recommend against exempting agricultural property from the wealth tax base or offering especially favourable terms. However, Sandford et al recommended a 'cautious' valuation of agricultural property under a wealth tax as well as the possibility of a ceiling on the tax (1975, p.229). The OECD briefly notes that agricultural assets have tended to benefit from preferential tax treatment under European wealth taxes (2018, p.84). France includes agriculture in its exemption for businesses (Dupas 2020). Under the Irish wealth tax, agricultural property and fishing boats were eligible for a deduction of the lessor of 50% of market value or £100,000 (Sandford and Morrissey 1985, p.22). Sandford et al described the then German wealth tax as using a separate basis of assessment for agricultural property tied to potential yield (1975, p.79) and a special DM 100,000 allowance was granted for certain entities that engaged in agriculture and forestry (Rehr, 2020). India excluded agricultural assets from its wealth tax (Krishnan and Vanvari, 2020). In Argentina, non-urban land owned by individuals is exempt from the wealth tax (IBFD Country Tax Guides). However, as with exemptions for primary residences and business assets, such broad exemptions and relief are difficult to justify on tax policy grounds in general and as a solution to valuation concerns in particular.

The Mirrlees Review (2011), in the context of advocating replacing business rates with a land valuation tax (LVT), argued agricultural property should be in the LVT base (p.377). Further, the Review assessed the practical challenges of valuing land generally for LVT and concluded that the exercise was manageable as a considerable machinery already existed to value land for business rates, these valuations were updated regularly, and the Land Registry held considerable information about property boundaries which could be used to generate information on land areas (p.374). In addition, the Review concluded that it would be possible to determine the value per acre of land given a reasonable body of land transactions, current estimates already published by the VOA (and disaggregated by local area), recognised methods for valuation, and considerable international experience of land valuation including in Denmark and in various US and Australian states (p.375; Boadway, Chamberlain and Emmerson, 2010, p.805; Clark and Fu, 2020).

In general, open market valuation should work reasonably well in respect of agricultural property – as for primary residences and other non-agricultural property – adopting principally a market transactions approach which utilises the considerable market information which is available. However, experts may need to play a more significant role for agricultural property

(Clark and Fu, 2020). Notably, the courts have been called upon to consider the extent to which hypothetical development potential should affect the valuation of such property. According to Clark and Fu, the courts have consistently found that this 'hope value' needs to be taken into account in any assessment of market value. Further, the courts have favoured a 'top-down' approach, pursuant to which the land value is determined first assuming relevant planning permission has been granted, and then this figure is reduced to reflect the relative likelihood of planning permission being granted (Clark and Fu, 2020, citing *Foster v HMRC* [2019] UKUT 251 (LC)).

In summary, notwithstanding historic and current international practice, the preferred valuation for agricultural property is open market value. Preferential treatment for agricultural property appears to be driven more by political considerations and liquidity concerns than by difficulties with valuation. We agree with the Mirrlees Review that a considerable machinery already exists for valuing land, and this could be extended to cover agricultural property not already included.

3.5 Art, antiques and other heritage assets

As with the other problematic asset types discussed so far, artwork and antiques are often exempt from European net wealth taxes, in this case on the basis that they are difficult to value but also to help protect national heritage (OECD 2018, p.83). The 1974 Green Paper was broadly in favour of taxing such assets, but recognised that it could lead to the dispersal of the national heritage and floated the possibilities of deferral of tax or special arrangements conditional on public access, perhaps in combination with arrangements to take the works into public ownership in satisfaction of accrued tax liabilities (p11-12). Boadway et al raised similar concerns and suggested similar special arrangements (2010, pp.783-84). Sandford et al recommended exemption from wealth tax for such assets, if combined with appropriate conditions of public access (1975, p239). The authors noted that at that time Denmark, Sweden and the Netherlands completely exempted works of art. Germany and Norway taxed art but Sandford et al had the 'strong impression' that there was much undetected under-reporting and under valuation of works of art (1975, p.237).

Proceeding on the assumption that such assets should be included in the wealth tax base (and see also Final Report, pp.52-53), there are a number of different valuation methods that can be deployed in order to determine the open market value of artwork. Put at its simplest, 'the valuation of works of art is not a precise science', with the process often giving rise to a range of acceptable values which 'competent valuers would recognise as the price which property would fetch if sold on the open market' (Tennant, 2020, p.3). Common practice is for valuers to set out a range of values (known as 'current auction estimates') for a work of art, with the lowest value in the range being the 'low auction estimate', the highest being the 'high auction estimate' and the median being the 'mid auction estimate' (Tennant, 2020).

The fact that valuing chattels such as art is an inexact science, however, should not be used to overstate the difficulties in valuation. The market is reasonably well informed. Purchasers are knowledgeable about art-historical considerations and prices. Information about auctions is widely reported (Tennant, 2020). Following from these considerations, a market transactions approach for determining open market valuation would be appropriate.

Further, art, antiques and other heritage works come within the scope of UK taxation in respect of CGT, IHT and Income Tax (see further Tennant, 2020) and fair open market value which is used there is understood to be equivalent to current mid-auction estimate (Tennant, 2020). This is principally on account of the judgment of Ungoed-Thomas in *Re Hayes' Will Trusts* [1971] 1 WLR 758 wherein he explained this basis of valuation as follows:

> *It has been established time and again in these courts, as it was in our case, that there is a range of price, in some circumstances wide, which competent valuers would recognise as the price which 'property would fetch if sold on the open market.' Neither the section [7(5) Finance Act 1894] nor Sankey J. [in Earl of Ellesmere v Inland Revenue Commissioners [1918] 2 KB 735] requires that the top price of that range should be the price fixed for estate duty. That price together with the lowest price in the range, may be expected to be the least likely price within the range, to be obtained from the open market. The most likely price, in the absence of consultation between the valuer representing conflicting interests, would presumably be the mean price.*

Whilst the mid-auction price would mirror what is already used for UK tax purposes, these valuations do not take place annually or even frequently but only on specific taxable events. An annual wealth tax would require more frequent valuations. A solution to this problem lies in relying on the Art Market Research indices, which are a sort of 'RPI' for art and are already used by HMRC (Tennant, 2020). Thus, the Art Market Research indices, along with other databases of past sales such as ArtNet, could operate within the scheme for valuation in a similar way to that of comparison sites such as Zoopla for property.

However, a final remark should be made about insurance values. As noted above, the OECD suggested insured values could be used for assets such as artwork and high-value jewellery that are infrequently traded and therefore hard to value (p.86). Saez and Zucman also suggested insurance values for art and other valuables would be 'usable' (2019a, p.35). These valuations would be readily available, thereby reducing compliance and administrative costs. They are also independently verified by parties, namely insurance firms, with an interest in ensuring an appropriate value is placed upon the assets, thus rendering the figures relatively robust to abuse or gaming. However, the suggestion to use insurance values overlooks the fact that different values are used depending on the purpose of the valuation – whether the owner for instance wishes to be compensated or to replace the asset. If the owner wished to replace any totally lost item by purchasing something comparable at auction, the value would be double the low auction estimate (Tennant, 2020). This is critical and as a result insurance which is taken out to replace assets will typically far exceed what the asset itself would fetch on an open market, as the amount also takes into account commission and other taxes and fees of a replacement. In other words, insurance values take into account more than just the actual cost of an asset. It is incorrect to believe that insurance values reflect open market values; they may even far exceed them.

4. Costs of valuation

This paper has so far highlighted the many challenging issues in establishing the value of certain assets for tax purposes. While the number of potential problem areas is large, a clear-eyed analysis also requires information on their aggregate scale - in particular, a sense of the

number of taxpayers likely to be grappling with these issues, and how much of a financial imposition the need to precisely their wealth would be. This final section develops rough estimates of the costs taxpayers may face in establishing a precise estimate of their total wealth. These represent the costs to taxpayers of professional assistance with valuing their assets; other compliance costs to taxpayers include the cost (paid or in their own time) of filing returns, and potentially the costs of further engagement with the tax authority, including any disputes and litigation.

From the outset this is likely to be a contentious exercise. As noted by Pentelow (2020), valuations for individual assets are often given as a range rather than a precise point estimate, as may be needed for a wealth tax. The data also do not allow a particularly nuanced approach, as explored below. However, the aggregate costs to taxpayers of complying with a tax should be a policy consideration, so this is important, if preliminary, work.

4.1 Which assets would require individual professional valuation?

Based on the discussion earlier in this paper and in Pentelow (2020), this section examines the asset types reported in the Wealth and Asset Survey (WAS),[1] broadly classifying each into categories according to how difficult they are to value (Table 1). Assets which are considered fairly easy to value include most financial assets, which are liquid and/or for which methods of valuation already exist for other tax or legal purposes. More uncertainty is likely to exist around valuations of property and most agricultural land: as mentioned above, the authors of the Final Report deal with this issue by having the VOA responsible for valuation of these assets (a role it largely already fulfils), meaning the costs for valuing these assets are not directly imposed on the taxpayer.

The hard-to-value assets are of most interest, including the 'problematic' asset types mentioned earlier in this paper and in Pentelow (2020). Some assets do not have a precise equivalent in the WAS data: for example, commercial property could be recorded as a business asset or as a personal asset, depending on how the respondent answers the survey questions (all personal property is included in the 'mid' difficulty tier, while all business assets are 'hard'). Acknowledging that this will be a very imprecise exercise, we nonetheless attempt to implement this classification at a broad level. The remainder of this section covers specific choices around classifying WAS asset categories as hard-to-value (or not), and the effect of *de minimis* exemptions as recommended in the Final Report.

[1] This section uses data collected in 2016-18 from the Office for National Statistics' (ONS) Wealth and Assets Survey (WAS), the most comprehensive data source on wealth in the UK. Advani, Hughson and Tarrant (2020) provide a full account of relevant aspects of these data and how they are adjusted for the present purposes. In particular: the data are intended to represent private households in Great Britain and exclude individuals in Northern Ireland and the area north of the Caledonian Canal, as well as individuals living in institutional settings; the reported value of household contents is reduced by 75% to reflect the distinction between replacement value (as reported in the WAS) and market value; otherwise wealth values are taken as given in the survey; the business wealth and share wealth holdings of with over £500,000 in total wealth has been boosted to fit the amount of wealth which is likely not to be captured at the top of the distribution.

TABLE 1: CLASSIFICATION OF ASSETS ACCORDING TO DIFFICULTY OF VALUATION

	Pentelow (2020)	Wealth tax design (Final Report)	WAS treatment
Easy	Savings Listed shares Other securities Pensions	Pensions valued by pension funds; otherwise taxpayer's responsibility to value	Net financial wealth (excl. some unlisted shares)* Mortgage endowments Pensions Vehicles Business assets (< £30k)[+] Household contents > £100k[∞]
Mid	Residential property Commercial property Most agricultural land	Valued by VOA	Net property wealth (excl. UK & overseas land)[◦]
Hard	Shares in private companies Intellectual & other intangible property Unincorporated businesses Land with 'hope value' for development Collectibles such as fine art	Taxpayer's responsibility to value (likely to need professional valuation)	Business wealth (>= £30k)[+], including shares in own business Unlisted shares* Land wealth[◦] Collectables & valuables
Excluded		De minimis exemption for individuals' items worth < £3000	Any broad asset categories with less than £3k Household contents unless total is over £100k (in which case easy) [∞]

Notes:
* Arm's length retail shares cannot be properly disentangled from private equity investments; shares held by individuals with only unlisted UK shares are hard-to-value assets, and all other shareholdings are easy-to-value.
[+] Personal services companies and other small businesses should not be difficult to value (see section on business wealth below); these are proxied by businesses with a very small amount of assets.
[◦] No information on development prospects of land value in WAS; however, land without buildings is not expected to be valued by the VOA under the proposed wealth tax design. Property assets reported in WAS should exclude any commercial property, which should be reported as a business asset.
[∞] We assume that most of the items included in this category are likely to be worth less than £3000 individually (and thus exempt) and exclude any wealth below £100,000 – see Section 2.1 for details.
Source: Pentelow (2020)

Unlisted shares and private companies

In the WAS, the value of listed and unlisted shares an individual owns are not reported separately. If individuals report owning only listed or unlisted UK shares (as opposed to both, and/or any shares held overseas), these can be easily allocated; however we have no way to disentangle this information for individuals who report owning more than one type of share. Moreover, UK unlisted shares could include both retail shares held at arm's length, such as those listed on the Alternative Investment Market (AIM), and private equity investments: this is a key distinction of interest for the purposes of ease of valuation.

The approach taken here is to include the value of shares held by individuals who own only unlisted shares included in their 'hard-to-value' assets; otherwise share holdings are all assumed to be 'easy' to value.[2] As a result we will classify some unlisted (private equity) share investments as easy-to-value assets, if the holder also has listed shares; at the same time, some unlisted shareholdings which we do allocate to the hard-to-value category will likely include retail unlisted shares, which should thus be easy to value. On balance of probabilities we suspect this may slightly overestimate the share of hard-to-value assets.

Business wealth

The many challenges in valuing businesses are described earlier in this paper. In the absence of a (Swiss-style) formula-based approach, businesses for which the financial market information typically used for valuation purposes does not exist are likely to present a particular challenge. However, it may be the case that some small businesses, especially those which are owned and managed by one or two people and in most cases with no other employees, are less likely to present valuation problems (see section 3.3 above).[3] For example, personal service companies essentially provide a corporate structure for an individual to work in much the same way a self-employed person might, but with different tax implications.

Work done by the Institute for Fiscal Studies (IFS) shows that there has been a substantial rise in such companies over the past decade, such that small, closely-held businesses now make up a large share of all companies (Cribb, Miller and Pope, 2019). For example, around 1/3 of owner-managed companies in the business services industry were owner-managed companies with a single director, and another 1/3 had two directors. That paper also provides evidence suggesting that profits of many closely-held businesses tend to simply be a return on the labour of the owner-manager, particularly in industries such as business services, financial services, and medicine; these businesses tend not to have employees or undertake substantial investment. As our tax design uses open market valuation we exclude the value of the owner's own human capital from the chargeable tax base; as a result, such businesses are likely to have little or no marketable value beyond the resale value of the tangible assets, such as tools or equipment.

It follows that it is important to separate these from larger or more complex businesses which would have resale value and thus need professional valuation for the purposes of a wealth tax. Unfortunately, the WAS gives us no information with which to make the distinction between, for example, personal service companies and more substantial businesses whose sale would involve the transfer of intellectual property and intangible assets. We take the size of the businesses as an (admittedly, poor) approximation of this distinction, assuming that businesses with total assets less than £30,000 will have little additional resale value and are thus easy to value, while businesses with assets worth more are 'hard' and likely to require a professional

[2] Shares that individuals hold in their own businesses should be reported as business assets.

[3] The WAS survey asks respondents to "include the value of financial assets, accounts receivable, inventories, land, property, machinery, equipment, customer lists and intangible assets" in their estimate of the value of their business; while this list includes many of the more complex assets which will be difficult to value, such as intellectual and intangible property or land with development value, it will not be the case that all those reporting owning business assets will have these complex assets and will require valuations. Note the survey indicates elsewhere that the response to this question should not include any shares held at arm's length, but be limited to the business assets over which the respondent exerts direct control.

valuation. Table 2 shows that only a little over a third of all individuals who report having business assets estimate that those assets are worth more than £30,000. By excluding the business assets of around 1.7 million business owners from the hard-to-value category, we come close to the IFS estimate that there were 1.8 million company owner-managers (the vast majority being directors of one- or two-director companies) in 2014–15.

TABLE 2: INDIVIDUALS WITH BUSINESS ASSETS BY TOTAL VALUE OF BUSINESS ASSETS

Range	Count ('000)
£0-3k	696
£3-10k	527
£10-20k	221
£20-30k	213
£30-40k	57
£40-50k	96
£50-100k	208
£100k-1m	445
£1m+	103
Total	2,566

Notes: Businesses with total assets less than £3000 are not chargeable under the wealth tax design.
Source: Authors' calculations based on ONS, Wealth and Assets Survey, 2016–18.

De minimis exemptions

The policy design of the Final Report includes exemptions for individual assets worth less than £3000 (except in the case of financial assets, including shares). This cannot be modelled precisely with the WAS, as values are generally aggregated by asset type rather than reported on an asset-by-asset basis, although we expect that some asset types will reflect just one or two major assets (such as houses or business investments), while others will be the aggregated value of many smaller assets which are unlikely to be worth more than £3000 each. Household contents, more so than other asset types, will typically reflect the value of multiple items which are not aggregable, so we would not assume that a reported total value that exceeds £3000 would imply all the constituent assets would be chargeable assets under the wealth tax. Our bar for including these categories of assets is much higher, at £100,000. Table 3 shows that the vast majority of individuals with property, land, and pension wealth report the value of those assets to be well over £3000. By contrast, household contents and other physical assets are far less likely to be reported in large values.

TABLE 3: EFFECT OF DE MINIMIS EXEMPTIONS ON CHARGEABLE WEALTH

		Number of individuals with positive net wealth ('000)	Share of which > £3k (%)	Within which, average chargeable wealth (£)
Easy to value				
	Financial assets	38,829	*	--
	Pensions	32,619	87.5	214,495
	Shares	5,852	*	--
	Vehicles	32,714	60.8	9,752

	Number plates	3,732	3.0	6,550
	Contents (main property)	40,755	+	--
	Contents (2nd home)	883	+	--
	Contents (buy-to-let)	1,322	+	--
	Contents (overseas)	555	+	--
Mid difficulty				
	Property	29,300	99.9	172,977
Hard				
	Business assets	2,566	74.7	368,220
	Collectables & valuables	5,753	50.7	18,597
	UK land	446	86.1	164,540
	Overseas land	1,222	91.8	76,438

* No de minimis exemption for financial assets
+ Higher exempt threshold (£100,000) applies for household contents asset types.
Source: Authors' calculations based on ONS, Wealth and Assets Survey, 2016–18.

In general, asset value figures in this section refer to chargeable wealth – that is, wealth beyond the *de minimis* exempt level.

4.2 Who would need professional valuations?[4]

This section explores how the incidence of each type of asset varies across different levels of wealth. Across the distribution there is a mix of asset types; however, for levels of wealth below £5 million, fewer individuals hold hard-to-value assets than those who do not (Table 4). Below £5 million in wealth, the vast majority of assets by value (90% or more) are in the 'easy' or 'mid' categories. Of most interest is the distribution of hard-to-value assets (that is, business wealth, valuables, some unlisted shares, and land), as these will form the basis for the estimates of aggregate compliance costs.

TABLE 4: ASSETS BY DIFFICULTY OF VALUATION ACROSS THE DISTRIBUTION

	Share of individuals who have (%):			Share of total marketable value (%)		
	Easy assets	Mid assets	Hard assets	Easy assets	Mid assets	Hard assets
0-250k	64.4	30.9	3.3	43.5	48.4	2.0
250-500k	99.3	94.2	15.1	50.8	44.9	2.0
500k-1m	99.9	95.9	23.1	61.3	34.4	3.0
1-2m	100.0	97.9	29.7	69.0	26.1	4.0
2-5m	99.4	98.6	45.8	63.8	26.3	9.3
5-10m	100.0	100.0	84.6	46.1	19.7	34.0
10m+	100.0	98.1	96.0	16.2	15.9	67.7

[4] As we rely on values as reported by owners for these hard-to-value assets (which under the Final Report policy design would probably not be considered adequate for a self-assessment return) this remaining analysis should be considered quite approximate.

Notes: Excludes assets falling below 'de minimis' (most asset types < £3k); also excludes household contents < £100k. Wealth thresholds and total wealth calculated with reference to total marketable wealth; columns 5–7 will not sum to 100 because of assets excluded by exemptions. £10m+ row should be interpreted with caution, as it is based on a relatively small number of WAS observations so may be subject to more uncertainty.
Source: Authors' calculations based on ONS, Wealth and Assets Survey, 2016–18.

As noted earlier, easy-to-value assets should not need professional valuations and mid-difficulty assets are, by design, valued by the VOA. Thus, the criteria for a taxpayer needing a professional valuation is possession of a hard-to-value asset. At a low tax threshold of £500,000, the absolute number of people needing a professional valuation is substantial (2.3 million of 8.4 million total taxpayers, Table 5).[5] At a higher threshold of £2 million, only an estimated 327,000 taxpayers needing professional valuations, but these make up a more substantial share of total taxpayers. For taxpayers above a threshold of £10 million, hard-to-value assets make up two thirds of the value of assets and the vast majority of taxpayers have hard-to-value assets, but at that level the absolute number of taxpayers is small.

TABLE 5: NUMBER OF TAXPAYERS NEEDING PROFESSIONAL VALUATIONS BY THRESHOLD:

Threshold per individual	Taxpayers ('000) with hard valuations	Share of taxpayer population (%)
£250k	3,413	21.5
£500k	2,283	27.2
£1m	1,047	34.2
£2m	327	51.4
£5m	74	87.6
£10m	21	96.0

Notes: To estimate counts of taxpayers we need to add back in individuals from the Sunday Times Rich List, who have been excluded from earlier calculations. As we do not have information on these individuals' asset composition, we estimate the share who would need professional valuations based on characteristics of WAS taxpayers with £10m+ in wealth (as reported in Table).
Source: Authors' calculations based on ONS, Wealth and Assets Survey, 2016–18 and Sunday Times Rich List.

Who are the individuals likely to need professional assistance in making their valuations? And for which assets? By definition we might expect this to be mainly individuals whose main assets are business assets or land. However, even amongst the individuals who hold hard-to-value assets, these assets do not tend to dominate their wealth portfolio. More of these individuals

[5] In this section and the following, WAS data are augmented with information from the Sunday Times Rich List (STRL) to better capture wealth at the top of the distribution following the procedure outlined in Advani, Hughson and Tarrant (2020) (they are not included in the earlier analysis as there is no information on the asset composition). For the purposes of cost aggregates, a per-taxpayer valuation cost is calculated to apply to STRL individuals on the assumption that their portfolios are similarly hard to value as those at the top of the WAS wealth distribution - i.e. they are incurring costs at the maximum possible rate.

report their most valuable assets are property[6] or pension wealth rather than the complex assets such as business assets (Table 6). That said, those individuals who report business assets report that these are much more valuable, on average, than other main asset type average values, but these make up less than 10% of all individuals who have a hard-to-value asset.

TABLE 6: MAIN ASSETS OF INDIVIDUALS WITH COMPLEX VALUATIONS

Asset type	Count with this as main asset ('000)	For whom, average value
Property excl. land	2,163	£359,297
Pension wealth	1,549	£564,603
Business assets	450	£1,314,251
Financial wealth	351	£744,290
Land	304	£233,926
Physical wealth	99	£32,069
No single largest asset type	4	--

Source: Authors' calculations based on ONS, Wealth and Assets Survey, 2016–18 and Sunday Times Rich List.

4.3 Costs to taxpayers by threshold

Burgherr (2020) provides estimates of the costs faced by taxpayers seeking professional assistance with current tax regimes (in particular, ATED and IHT) which require wealth valuation. These figures are informative for taxpayers who would be likely to need professional assistance to complete their returns, but we expect that a large share of taxpayers will not require such assistance. In this section we combine Burgherr's estimates on the magnitude of valuation costs with the insights already examined in this paper (and from the WAS and Pentelow (2020)) on which taxpayers are more likely to need professional assistance in complying with the wealth tax design as outlined in the Final Report. The results suggest there is a strong prospect of keeping administrative costs to taxpayers to less than 0.1% of the total chargeable assets of the tax.

As noted earlier, we begin with the assumption that only hard-to-value assets (business wealth, private equity investment, collectables, and land) incur a valuation cost substantial enough to be relevant for the purposes of this exercise; other asset types are valued by the VOA, are small enough (household contents) to be likely exempt, or easy enough to value (financial assets) that the vast majority of taxpaying households would not need a professional valuer's assistance.

This reduces the range of assets for which the taxpayer may need to pay a valuer's fee. Nonetheless, it is difficult to pin down what that fee might be: Burgherr (2020) provides

[6] Note the design in the Final Report includes houses being valued by the VOA, so property here (which excludes land assets) is not ultimately a problem for the individuals. However, this does show that a substantial share of individuals would be affected if the VOA were not to take this responsibility.

evidence that the cost to taxpayers of valuations of property or business assets may vary by as much as a factor of ten depending on the size, value, and complexity of the asset.[7]

Figures quoted on professional valuations in the UK for ATED suggests an upper bound on costs of around 0.6% of the value of the asset (highest fee £3000; lowest threshold £500,000), although we note this is the cost of valuing housing, which (as we have emphasised) is likely to be easier to value than business assets. Costs for property valuation for IHT are similar, while there is a slightly higher upper bound of around 0.8% for business valuation (£2,500 for a simple case, lowest threshold £325,000).

Lower bounds on valuation costs are difficult to estimate, as much of the evidence presented in Burgherr suggests that valuation costs eventually reach an upper limit, while the wealth distribution has an extremely long tail. In general we try to err towards assuming a more costly regime, although there are a number of reasons to believe these costs may already be on the high side: Burgherr's figures represent costs to taxpayers with very high wealth and/or complex affairs, and who interact (in the case of IHT) with a complex system of exemptions and reliefs such that taxpayers may be willing to pay more in order for the prospect of reducing their tax bill. A wealth tax designed to avoid providing such incentives may carry lower valuation costs.

We proceed by assuming that the cost of a valuation is a fixed percentage of a taxpayer's hard-to-value assets (business wealth, land, collectables and valuables, and some unlisted share holdings), implicitly assuming that the valuation of these assets can take place separately to the remaining assets making up a person's total wealth (or, at least, that adding these to the valuation does not add appreciably to its cost).[8] Based on the above work on current costs of valuation in the UK, we explore how costs vary between a relatively low rate (0.1% of the asset's reported value) and an upper bound rate (0.8% of value, as per estimated upper bound from Burgherr's IHT estimates).

The effect of assuming valuation costs are a fixed percentage of the value of complex assets is that the total valuation cost increases faster than wealth, as hard-to-value assets become a larger proportion of total wealth. While this seems reasonable at first, given the increasing complexity of wealthier individuals' portfolios, we cannot justify an assumption that leads valuation costs to increase more-than-proportionately with total worth forever. This is supported by Burgherr's findings that valuation costs for ATED tend to cap out at around £10,000, and at around £25,000 (for business wealth only) for IHT. To reflect this we cap total valuation costs at £50,000, a generous figure which is intended to accommodate the larger number of assets which may need to be valued for wealthier individuals.[9]

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[7] Burgherr also notes that the costs quoted are not likely to be representative of the cost to an 'average' taxpayer, but rather to taxpayers with complex affairs – hence we apply these costs to hard-to-value assets only. He also argues that the costs for a well-designed wealth tax with a broad base would likely lie between the costs for ATED and IHT.

[8] It would be preferable to calculate costs on a per-asset basis, as this approach does not make allowances for whether having multiple assets requiring valuation might increase costs; however it is impossible to tell how many separate assets an individual posesses in the relevant asset types from the WAS data.

[9] It is possible that individual cases may exceed this figure, but on average there is scope for it to be offset by individuals who face a lower valuation cost. Nonetheless, Burgherr notes that the existence of

Aggregating valuation costs across all taxpayers, we can calculate average costs per taxpayer and total valuation costs as a share of assets captured by the tax (Table 7). This is a necessarily approximate exercise and is not expected to be particularly accurate on a taxpayer-by-taxpayer level, as valuation costs themselves will vary substantially across taxpayers. As an example, to the extent that some business assets are jointly owned, the cost of valuation of business assets will be overstated as the valuation on the whole business only needs happen once.

Because of the way valuation costs are modelled, taxpayers' administrative costs as a share of chargeable assets depends on the threshold of the tax. Even so, these two broad scenarios suggests that costs to the taxpayer of a wealth tax could be contained to less than 0.1% (0.14%) of total chargeable (taxable) wealth: 0.01-0.03% (0.01-0.04%) in the low-rate scenario, and 0.06-0.1% (0.06-0.14%) in the high-rate scenario.

Aggregate valuation costs decrease as the exemption threshold increases, as the number of taxpayers also falls; however, an increasing share of the remaining taxpayers hold hard-to-value assets, so *average* valuation costs increase. This is true also of valuation cost as a share of both chargeable assets (total assets of those captured by the tax), and taxable assets (that is, excluding wealth below the tax threshold). The impact of the assumed £50,000 cap on professional fees is clearer in the high-cost scenario, with relative cost of valuation falling between the £5 million and £10 million thresholds.

TABLE 7: ADMINISTRATIVE COST ESTIMATES WITH LOW VALUATION RATE (0.1%) SCENARIO

Threshold per individual (£)	Taxpayers ('000)	Total valuation cost to taxpayers (£m)	Valuation cost per taxpayer (£)	Valuation cost as % chargeable assets	Valuation cost as % taxable assets
Low valuation rate (0.1%)					
250k	15,537	927	60	0.01	0.01
500k	8,246	870	106	0.01	0.01
1m	3,004	759	253	0.01	0.02
2m	626	630	1007	0.02	0.03
5m	83	491	5885	0.03	0.04
10m	22	352	15840	0.03	0.03
High valuation rate (0.8%)					
250k	15,537	5268	339	0.04	0.06
500k	8,246	4814	584	0.05	0.08
1m	3,004	3926	1307	0.06	0.11
2m	626	2895	4624	0.09	0.14
5m	83	1778	21318	0.10	0.13
10m	22	741	33343	0.05	0.06

Source: Authors' calculations based on ONS, Wealth and Assets Survey, 2016–18 and Sunday Times Rich List.

the £20m+ band for ATED significantly reduces the complexity of high-value property valuations; depending on the precise wealth tax design the wealthy may have more need to establish a more precise point estimate of their wealth than under ATED.

Costs in both scenarios are within Burgherr's estimate that the costs of administering a wealth tax for taxpayers are likely to be between 0.05% and 0.3% of taxable wealth, and well below the assumption of Troup et al. (2020) that taxpayer costs related to IHT range between 1% and 1.5% of total assets.[10] The figures in Table 7 do not include other administrative costs, such as filing costs, so it is reasonable to expect these estimates should be lower; even so, given the wealth tax design examined is much less complex for the taxpayer than the current IHT regime we think it is appropriate that our estimate is well below these latter figures.

5. Conclusion

Open market valuation is the preferred aim of valuation for a net wealth tax. It is the primary concept used in many current/former wealth taxes and existing UK taxes, as well as in non-tax situations, and finds general support in the tax policy literature. In many cases, open market valuations will be relatively easy to determine by reference to market transactions, and technological innovation has assisted in that regard in recent years. However, open market valuation can be problematic to determine for certain assets. Most dramatically, this difficulty may be one explanation (amongst others) for the outright exemption from, or preferential treatment under, current/former wealth taxes for pensions, primary residences, business assets, agricultural property and art/antiques. However, such exemptions raise horizontal equity and neutrality concerns and are difficult to justify on tax policy grounds. Moreover, in our view, options are available for arriving at an open market value even for the most problematic assets. This includes using cash equivalent figures for defined benefit pensions, current mid-auction estimates for artwork, and valuing many small private businesses without taking into account value attributed to the business owners' human capital.

Simpler valuation methods may be preferable to a market transactions approach in some cases, however. For example, a book value method as used in Switzerland could be applied to value private companies and some form of insurance value used for artwork. In addition, an argument can be made for less frequent valuation for especially problematic assets. Like exemptions, however, measures such as these aimed at administrative convenience, certainty and minimising valuation disputes come at the expense of horizontal equity and neutrality and risk allowing taxpayers to game the system. These concerns are more significant for an annual wealth tax than for a one-off wealth tax.

Finally, it is worth noting that the scale and prevalence of such problems may depend quite significantly on the exemption threshold of the tax: at higher thresholds the taxpayers captured are far less numerous but tend to have more complex affairs. Our estimates of the costs to taxpayers imposed by the difficulty of obtaining a precise valuation of particular assets (in this case, predominantly business assets, land, and collectables) suggest that in aggregate costs

[10] As Burgherr (2020) notes, there are good reasons to expect that 1–1.5% may overstate the likely costs for the majority of taxpayers: much of the probate process, which contributes to IHT costs, would not be necessary in the case of a wealth tax, and estimates representing the fees of top firms will not be representative of costs for many taxpayers with less complicated affairs.

could be contained to 0.1% or less of total chargeable assets, even if they are substantial for individual taxpayers.

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