Financial supplies after 20 years

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Abstract

This article will review the workings of GST in Australia in relation to financial supplies over the past 20 years, focusing in particular on the issues that have arisen before the courts. In this context the article first considers the workings of the rules denying input credits to makers of financial supplies, where it is noted that the legislative provisions have been interpreted expansively so as to determine creditability based on direct or indirect attribution to taxable or input taxed supplies. The article then considers the rules for apportioning inputs between creditable and non-creditable purposes and notes a debate as to the extent to which particular expenses need to be directly related to taxable or input taxed activities in order to be included in a general apportionment formula. The article also considers the proper approach to how supplies should be characterised for GST purposes and the extent to which this relies on a view that the GST is ‘a practical business tax’. The article concludes with observations on some of the challenges posed by technological change, and in particular advances in artificial intelligence, to the workings of GST in the financial sector and the current understanding of the concepts in the definition of financial supplies.

Key words: Goods and services tax, financial supply, input taxed supply, attribution to taxable supply, apportionment of input tax; interpretation of GST law, technological change, artificial intelligence

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1. **INTRODUCTION**

The introduction of goods and services tax (GST) in 2000 represented a major turning point in the development of Australia’s tax system. Coming into operation as part of a package of reforms, which saw the abolition of wholesale sales tax, the reform package included a timeframe for the abolition of a range of other taxes. The intergovernmental agreement that set out the timetable for the abolition of those taxes, having been revised several times, is now embodied in the *Intergovernmental Agreement on Federal Financial Relations* between the Commonwealth and the States and Territories of Australia dated July 2011.¹

The scheme of GST provides for the ‘input taxation’ of financial supplies (referred to as ‘exemption’ in most other jurisdictions with a value added tax (VAT) or GST). The input taxation of the finance sector follows the general model for value added taxation applying in other parts of the world, such as the European Union, Singapore and New Zealand.² This article will review the workings of GST in Australia in relation to financial supplies over the past 20 years, focusing in particular on the issues that have arisen before the courts. The matters deliberated on by the courts include the workings of the rules denying input credits to makers of financial supplies (discussed in section 3 below), the rules for apportioning inputs between creditable and non-creditable purposes (section 4) and the proper approach to how supplies should be characterised for GST purposes (section 5).

The last of these matters involves basic questions of how the legislation and the transactions it applies to should be construed, with a clear preference on the part of the courts towards a legal technical approach rather than one which looks more to economic substance. The difference in the two approaches to interpretation continues to remain relevant, with different tax outcomes capable of being produced depending on which approach prevails. The article will conclude with observations on some of the challenges posed by technological change to the workings of GST in the financial sector (section 6).

However, the legislative context in which these matters have arisen first requires brief consideration, and in particular some of the unique aspects of the Australian GST system that unsurprisingly have given rise to some of the questions that the courts have had to consider.

2. **OVERVIEW OF GST ON FINANCIAL SUPPLIES**

The foundational concept underlying GST is that of taxing the ‘value added’ by a business, that is, taxing the value added along a supply chain until the good, service or other thing moving down the supply chain reaches the end consumer. The effect is that the end consumer bears the full cost of the GST when they pay for the thing they acquire.

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How GST works to achieve this outcome was described in the following terms by Hill J in *HP Mercantile Pty Limited v Commissioner of Taxation*:

The genius of a system of value added taxation, of which the GST is an example, is that while tax is generally payable at each stage of commercial dealings (supplies) with goods, services or other ‘things’, there is allowed to an entity which acquires those goods, services or other things as a result of a taxable supply made to it, a credit for the tax borne by that entity by reference to the output tax payable as a result of the taxable supply. That credit, known as an input tax credit, will be available, generally speaking, so long as the acquirer and the supply to it (assuming it was a ‘taxable supply’) satisfied certain conditions, the most important of which, for present purposes, is that the acquirer make the acquisition in the course of carrying on an enterprise and thus, not as a consumer. The system of input tax credits thus ensures that while GST is a multi-stage tax, there will ordinarily be no cascading of tax. It ensures also that the tax will be payable, by each supplier in a chain, only upon the value added by that supplier.3

By way of exception to the scheme described above, certain kinds of supplies including financial supplies are ‘input taxed’. This means that the maker of financial supplies is effectively treated as the end consumer in that it is not taxed on the financial supplies it makes but unlike other businesses, must bear the costs of the GST charged to it by its own suppliers. This is achieved by the statutory rule that prevents claims of input tax credits where a thing acquired ‘relates to making supplies that would be input taxed’, relevantly including financial supplies.4 The rationale for this treatment of makers of financial supplies was set out as follows by Hill J in *HP Mercantile*:

In terms of GST theory, it is generally accepted that there are certain kinds of activities where the basic system of output tax on supplies and input tax credits on acquisitions will not lead to taxation on the value added by each supplier in the chain. The most important example is said to be financial transactions of financial institutions such as, but not confined to, banks, because they constantly borrow and lend and turn over money in a way that amounts, such as interest charged, will not represent the real value added by the financial institutions. Indeed, as the explanatory memorandum distributed with the bill which, as amended, later became the GST Act says in Chapter 1 [5.140]: ‘...there is no readily agreed identifiable value for supplies consumed by customers of financial services’. In such a case, it is the margin or imputed margin that is the real economic subject of the supply. There are other examples where this may be the case, one of which is the leasing of, or other dealings with, residential property (not being new residential property).

By way of what may be seen as a compromise for the difficulties of applying the normal system of value added taxation to financial supplies and other difficult cases, value added taxation design has created a form of supply which is referred to in Australia as an input taxed supply but which, in international value added tax parlance, is referred to as an ‘exempt supply’. An input taxed or exempt supply (and financial supplies made by financial institutions will

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be the main example) will not, generally speaking, attract output tax, but the entity which makes financial supplies will, likewise, not obtain an input tax credit for the tax payable on acquisitions it makes in the course of its enterprise of making input taxed supplies.\footnote{HP Mercantile Pty Limited v Commissioner of Taxation [2005] FCAFC 126, paras 16-17.}

Similarly, in \textit{AXA Asia Pacific Holdings Limited v Commissioner of Taxation} Lindgren J observed:

Financial supplies have been treated as input taxed because it has been found to be administratively difficult to subject them to a valued added tax, such as GST, because of the difficulty in identifying and measuring any value added.\footnote{AXA Asia Pacific Holdings Limited v Commissioner of Taxation [2008] FCA 1834; 71 ATR 1.}

De la Feria and Walpole elaborate on the difficulties in identifying the ‘value add’ component of financial supplies in the following terms:

where financial supplies are concerned there is a difficulty in ‘identifying that charge separately from the other elements that are included when determining levels of payments of interest or fees’. Disentangling the several components of typical financial transactions is generally seen as administratively complex and costly; however, complexity levels are often even higher, as financial transactions are frequently more sophisticated, incorporating several types of financial flows. As a result, most jurisdictions simply exempt financial supplies from VAT, not as a matter of principle, but rather as a necessity.\footnote{Rita de la Feria and Michael Walpole, ‘Options for Taxing Financial Supplies in Value Added Tax: EU VAT and Australian GST Models Compared’ (2009) 58(4) International and Comparative Law Quarterly 897, 897-898, citing D Williams, ‘Value Added Tax’ in Victor Thuronyi (ed), \textit{Tax Law Design and Drafting: Vol I} (International Monetary Fund, 1996) 41 (other footnote omitted).}

Section 40-5 of the \textit{A New Tax System (Goods and Services Tax) Act 1999} (Cth) (GST Act) provides for input taxation of financial supplies.\footnote{GST Act, s 40-5.} What supplies are input taxed as financial supplies are set out in detail in Division 40 of the GST Regulations.\footnote{A New Tax System (Goods and Services Tax) Regulations 1999 (Cth) Div 40 (GST Regulations).} They include a range of transactions such as relevant loans, mortgages, credit arrangements and dealings in currency.

While the broad workings of input taxation adopted by the Australian GST as set out in the GST Act and GST Regulations system are similar to those of the typical model of value added taxes as applied to financial supplies, some aspects of the Australian GST system, from its inception, differed from comparable systems found in other countries.

First, the ability to claim input tax credits does not depend on attribution of specific acquisitions to taxable supplies (or GST-free supplies) as is the case with the more usual model. Under the European model, for example, deductions are allowed where the acquired ‘goods and services are used for the purposes of the taxed transactions of a taxable person’.\footnote{VAT Directive, art 135.} A similar approach is adopted by Singapore and New Zealand.\footnote{Goods and Services Tax Act, 2015 Ed (Singapore) ss 19-20; Goods and Services Tax Act 1985 (NZ) s 20(3A).} What follows under the model commonly found overseas is that deductions are allowed for
inputs used for supplies that are taxable, with the consequence that no deductions are allowed for inputs relating to other supplies, such as financial supplies.

The Australian system takes the opposite approach where denial of input tax credits is mandated for acquisitions that relate to input taxed supplies with the result that acquisitions relating to taxable (or GST-free) supplies are potentially creditable. This difference in approach has resulted in the courts specifically having to consider the question of what relationship is required between acquisitions and input taxed supplies to produce the result of a denial of input tax credits as opposed to the question as framed in most other jurisdictions, of what relationship is required between acquisitions and taxable supplies to allow deductions.

Secondly, the Australian system does not contemplate a total denial of input tax credits for makers of financial supplies. A unique system of ‘reduced input tax credits’ was instituted to allow makers of financial supplies to claim credits to the permitted extent for the acquisitions of certain defined categories of things relating to making financial supplies. Perhaps this was an innovation that owes its existence to the time when GST came into effect when businesses were beginning to ‘outsource’ a range of ‘back office’ functions to third party contractors. Had these functions been carried out in-house, the salary costs of providing these functions would not attract a GST cost but when outsourced, the delivery to the financial supply provider of these services would have given rise to an unrecoverable GST cost through the denial of input tax credits for the GST amount charged by the outsourced supplier. Hill J described the reduced input tax credits design feature of the GST as

a unique Australian invention that certain kinds of activities, being, generally speaking, those which might be outsourced by entities making financial supplies and are in aid of making such supplies will, albeit that those activities might be defined as financial supplies, attract a reduced input tax credit of 75 per cent of the credit otherwise available. An example relevant to the present facts is debt collection activities: see reg 70-5.02 (Item 17) of the A New Tax System (Goods and Services Tax) Regulations 1999 (Cth).

A third point of differentiation from overseas systems of value added tax, especially that of the European Union, is found in the approach of the courts to the interpretation of legislation. The general European approach, as set out in Case C-41/04, Levob Verzekeringen BV, OV Bank NV v Staatssecretaris van Financiën, requires consideration of what a supply is ‘from an economic point of view’ and in accordance with ‘the economic purpose of a transaction’. In this case, a supply of software and its customisation were to be treated as single supply and not two, in that they formed ‘part of a single economic transaction’. Put another way, what is required is determination of the ‘substance and reality’ of a transaction for the purposes of VAT characterisation.
However, this broad principle has some qualifications, notably that in the case of VAT
exemptions, a strict interpretation is favoured as regards identifying the services that
may be exempt.17

The trend of the Australian cases, by contrast, places greater emphasis on the legal effect
of the statute and the transactions it taxes. While the overriding principle remains that
‘the Court will prefer an interpretation of a statute which would give effect to the
legislative purpose, as opposed to one that would not’,18 the courts in characterising a
transaction for GST purposes appear to be more persuaded by legal form and effect of
a transaction rather than the ‘substance’ of the transaction.19

During the preceding 20 or so years, it is striking to note that the number of cases that
have been decided in connection with financial supplies has been relatively low in
number, with perhaps half a dozen or so cases of importance having been decided. This
may in part be a result of the detailed drafting of the rules set out in both the GST Act
and in the accompanying GST Regulations. In addition, a number of detailed public
rulings address many of the main issues, making the Australian GST system what is
arguably one of the best explained in the world.20 It is however not surprising that some
of the cases that have been decided have arisen out of some of the unique features of the
Australian system described above, such as the pathway for claiming input tax credits
(discussed further in section 3 below) and the consequences for apportionment of
acquisitions between different categories of supplies (section 4). The case law also
considers the proper approach to construction of the legislation and transactions it taxes,
with important consequences for GST (section 5).

3. CLAIMING INPUT TAX CREDITS

The reach of the provisions of the GST Act allowing for the claiming of input tax credits
fell for consideration by the courts at an early stage, differing as they did from the more
usual scheme for value added taxation. That is, under the usual model such as that in
the European Union, the rules required relevant connections to be found between
taxable supplies and acquisitions to allow creditability. Under the Australian system,
the requisite relationship between input taxed supplies and acquisitions resulted in a
denial of input tax credits.

The particular question was, therefore, what relationship was required between inputs
and input taxed supplies to produce a denial of input tax credits. That is, when did an
‘acquisition… [relate]… to making supplies that would be input taxed’ under section

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18 HP Mercantile Pty Limited v Commissioner of Taxation [2005] FCAFC 126; CIC Insurance Limited v
19 Commissioner of Taxation v Gloxinia Investments (Trustee) [2010] FCAFC 46; 75 ATR 806; Australian
Style Investments Pty Ltd as Trustee for the Australian Style Investments Unit Trust and Commissioner of
Taxation [2013] AATA 847; 94 ATR 984.
20 See Australian Taxation Office, ‘Goods and Services Tax: GST Treatment of Financial Supplies and
Related Supplies and Acquisitions’, Goods and Services Tax Ruling GSTR 2002/2; ‘Goods and Services
Tax: Determining the Extent of Creditable Purpose for Claiming Input Tax Credits and for Making
Adjustments for Changes in Extent of Creditable Purpose’, GSTR 2006/4; ‘Goods and Services Tax:
Reduced Credit Acquisitions’, GSTR 2004/1.
11-15 of the GST Act?\textsuperscript{21} The use of the subjunctive ‘would be’, referring as it does to conditions under which hypothetical input taxed supplies would be made, leaves open questions as to what those hypotheticals were. In particular, did they refer to the time when the actual input taxed supplies were required to be made? Or going further, were actual supplies that were input taxed (occurring at whatever time) required to be identified for creditability to be denied?

These questions fell for determination in \textit{HP Mercantile} \textsuperscript{22}. The taxpayer in question operated a debt collection business, acquiring certain debts for future collection, comprising input taxed supplies. Before the acquisition of the debts, certain expenses were incurred relating to the future collection of these debts. After acquisition, other expenses were incurred. The taxpayer claimed full input tax credits for GST costs included in these expenses. The question was whether expenses incurred both before and after the acquisitions of debts gave rise to creditability. This raised a broader question of whether a specific tracing of a thing acquired with a thing supplied was required for the purposes of determining creditability.

The Full Federal Court (Hill J delivering the leading judgment) held that there was no reason in principle or policy why the grant of input tax credits should depend upon the sequence in which an acquisition and supply occurs, noting that:

\begin{quote}
It can hardly be thought that the legislative policy would refuse the input tax credit where the loan followed the advice, but allow it where the advice followed the loan. Just as in the income tax context, a loss or outgoing may have been incurred in gaining or producing assessable income of a previous taxation year (cf \textit{Placer Pacific Management Pty Ltd v Federal Commissioner of Taxation} (1995) 95 ATC 4459), so too, an acquisition may have been made in relation to the making of input taxed supplies in a past GST period, just as it may be made in relation to the making of input taxed supplies in the current or future GST period. All that is required is a relationship between the acquisition and the making of supplies that, if any are made, would be input taxed.\textsuperscript{23}
\end{quote}

Hill J also held that there was no tracing requirement:

\begin{quote}
The language of s 11-15 would suggest that it was not intended that there be a tracing between the subject matter of an acquisition and an actual supply. Such a tracing would be necessary were the language of s 11-15(2)(a) to operate to disallow a credit where there was a relationship between the acquisition and an actual supply which was input taxed.\textsuperscript{24}
\end{quote}

However, the relationship which negated the input tax credit was expressed as being between the acquisition and the making of input taxed supplies, rather than between the acquisition and actual input taxed supplies.

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\textsuperscript{21} GST Act, s 11-15.
\textsuperscript{22} \textit{HP Mercantile Pty Limited v Commissioner of Taxation} [2005] FCAFC 126.
\textsuperscript{23} \textit{HP Mercantile Pty Limited v Commissioner of Taxation} [2005] FCAFC 126, para 52.
\textsuperscript{24} Ibid para 46.
\end{flushright}
In *HP Mercantile*, the Federal Court held that both acquisitions before and after an input taxed supply could be denied creditability. While not a matter that arose in the case, it would also appear that the ambit of section 11-15(2) should, it is submitted, also extend to continuing supplies (whether or not the subject of Division 156 relating to ‘supplies and acquisitions made on a progressive or periodic basis’) such as an ongoing service acquired by the maker of financial supplies, that straddles that point in time of making of an input taxed supply.

Hill J further held that it did not follow that ‘an entity which has embarked upon an enterprise which consists of the making of input taxed supplies, but in fact makes no supplies, will be entitled to obtain input tax credits. Whether it will or not will depend upon whether the acquisitions are related to supplies which if made would be input taxed. If the acquisitions do not, then a credit will be available’.

Where acquisitions did not directly relate to making specific input taxed supplies but could only relate indirectly to financial supplies (such as general business overheads that could not be attributed to any particular supply), the additional question arose in *AXA Asia Pacific Holdings Limited v Commissioner of Taxation* as to whether the test in section 11-15 had a wide enough reach to deny the acquisition creditability. The expenses in question were general management expenses incurred in the context of certain investments in unit trusts. The Federal Court (per Lindgren J) noted that some of the expenses were identifiable as relating directly to: (1) input taxed supplies; (2) taxable supplies; (3) GST-free supplies; and (4) supplies outside the scope of GST. An example of directly attributable expenses was commissions paid to independent sales agents in connection with the promotion and sale of products. Lindgren J noted that ‘[i]deally the evidence would specify the nature and use made of the things acquired in some detail, the attempts made to relate them directly to supplies, and the reason why the particular methodology and proxies proposed were most likely to approximate the relatedness between acquisition of the things and the use made of them’. Lindgren J went on to hold that the extent to which the taxpayer acquired general management services for a creditable purpose was ‘answered by looking to the extent to which those things were acquired in the carrying on of [the taxpayer’s] enterprise, and then to the extent that the acquisitions related, directly or indirectly, to the making of any input taxed supplies by [the taxpayer]’.

The wide language of section 11-15 has allowed the courts to read the provision expansively and not restrictively so that a range of expenses may be denied creditability regardless of whether they can be attributed to an actual input taxed supply or not, and regardless of whether the relationship between the acquisition and input taxed supply is direct or indirect.

The Commissioner, at least, has indicated a preference for ‘direct’ attribution as a means for determining the creditability of acquisitions so that a direct attribution of acquisitions to input taxed supplies would, on this approach, deny creditability under section 11 and similarly direct attribution to taxable supplies (or GST-free supplies)

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25 Ibid.
26 Ibid.
27 *AXA Asia Pacific Holdings Limited v Commissioner of Taxation* [2008] FCA 1834.
28 Ibid para 75.
29 Ibid para 127 (emphasis in original).
should conversely allow creditability.\textsuperscript{30} Undoubtedly, the preferred method of attribution will allow for a more accurate way of attribution. However, the structure of section 11 (and in particular the absence of a requirement to specifically attribute acquisitions to actual supplies whether taxable, input taxed or GST-free) allows flexibility in the treatment of acquisitions that cannot be directly related to supplies of a particular kind as held in the \textit{AXA} case,\textsuperscript{31} especially where there is an indirect relationship with different kinds of supplies, raising further questions of how apportionment should apply. This was also a matter that the courts have been required to consider.

4. **Apportionment**

Judicial consideration of the GST scheme as it applies to financial supplies has extended to the question of how taxpayers should apportion inputs between creditable and non-creditable purposes where the inputs in question relate both to input taxed supplies on the one hand and to other supplies on the other. The task of apportionment of inputs between creditable and non-creditable purposes is, of course, not unique to Australia and is a task that makers of financial supplies are commonly required to carry out in most jurisdictions that levy value added tax. De la Feria and Walpole observe:

\begin{quote}
\textit{Fully exempt financial entities are probably relatively rare. More common will be the situation where one particular body has a mixed VAT nature, engaging in activities which are at the same time exempt, and taxable. This means in practice that most will be able to deduct at least part of their input VAT...}\textsuperscript{32}
\end{quote}

In the Australian context, the task of apportionment arises in the context of the specific statutory rule denying creditability for an acquisition ‘to the extent that’ the acquisition relates to input taxed supplies and the judicial consideration of the relationship required between inputs and input taxed supplies (as discussed in section 3 above). In the absence of any further guidance in section 11 as to how this task should be undertaken, case law provides some guidance. In \textit{Commissioner of Taxation v American Express Wholesale Currency Services Pty Limited},\textsuperscript{33} the Full Federal Court, in describing the task required for apportionment, was prepared to allow a broad formula-based approach without requiring analysis of the use of each acquisition individually. In this case, a formula based on the proportion of the taxpayer’s revenue from non-input taxed supplies compared with revenue from all supplies was accepted as a basis for determining the creditable proportion of acquisitions generally. The question arose in a situation where revenue was earned by the taxpayer from making input taxed supplies and what were claimed by the taxpayer to be taxable supplies. The Court (per Kenny and Middleton JJ in their majority judgment) described the relevant methodology used as follows:

\begin{quote}
As can be seen, determining the extent of creditable purpose under the GST Act requires an analysis of an acquisition’s relationship to the making of particular supplies, and consideration of whether those supplies would be
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\textsuperscript{31} \textit{AXA Asia Pacific Holdings Limited v Commissioner of Taxation} [2008] FCA 1834.

\textsuperscript{32} De la Feria and Walpole, above n 7, 908.

\textsuperscript{33} \textit{Commissioner of Taxation v American Express Wholesale Currency Services Pty Limited} [2010] FCAFC 122; 77 ATR 12.
'input taxed'. Rather than undertake this analysis individually for each of the acquisitions in question, the respondents used the formula based on revenue figures as a proxy for the relationship between their acquisitions (in the aggregate) and the making of particular supplies.

... 

[T]he formula assumes that it is fair and reasonable to expect a roughly proportional relationship between: (a) the amount of revenue [the taxpayer] earns from making financial supplies relative to its total revenue; and (b) the extent to which [the taxpayer’s] acquisitions relate to making financial supplies, relative to the acquisitions’ relationship to its supplies overall.34

The Federal Court majority allowed apportionment to occur based on a comparison of revenue from input taxed supplies being compared with all revenues, without requiring that task to be carried out on the basis of the ‘consideration’ for each kind of supply, which would require a more technical analysis of what constituted consideration for each type of supply under the statutory rules defining consideration under section 9-15 of the GST Act.35

The Commissioner of Taxation in ruling GSTR 2006/4 accepts that generally the taxpayer has a degree of flexibility as to how apportionment should be carried out within certain limits described in the following terms:

32. You may choose your own apportionment method, but the method you choose needs to be fair and reasonable in the circumstances of your enterprise. It needs to appropriately reflect the intended or actual use of your acquisitions or importations.

33. The ‘fair and reasonable’ principle was used by the High Court in Ronpibon Tin v FC of T, in the context of the apportionment of expenditure serving more than one object ‘indifferently’. The High Court did not, in that case, apply this principle in relation to the allocation of specific acquisitions wholly to specific ends, or to apportioning items of expenditure ‘distinct and severable parts of which’ can be identified as being devoted to such specific ends. The Commissioner’s view is that the ‘fair and reasonable’ principle applies equally to the choice of method for allocating or apportioning acquisitions in all circumstances.36

While the Commissioner expresses the view that apportionment should reflect the ‘planned use of that acquisition’, he accepts both ‘direct or indirect methods’ of apportionment.37 A direct method would ‘best reflect the intended or actual use of an acquisition’.38 However, where the direct method though preferred is not appropriate, the indirect methods described by the Commissioner to determine the creditable proportion of an acquisition include ‘output’ methods (for example, based on the gross

34 Ibid paras 108, 127.
35 GST Act, s 9-15.
37 Ibid paras 34-35.
38 Ibid para 35.
value of supplies that are not input taxed as a percentage of total supplies). Also accepted are ‘input’ methods based on the already established use of some inputs (directly allocated inputs) to estimate the use of other inputs not able to be allocated in this way.

The absence of hard and fast prescriptive rules in the legislation as to how the task of apportionment should be carried out has allowed the courts (and the Commissioner) to accept a degree of flexibility in methods of apportionment that taxpayer may use. However, because the legislation is not prescriptive, the fact that the taxpayer may be called upon to use one among a range of apportionment methodologies means that a risk of potential non-compliance arises due to choice of a particular methodology where a more accurate method was available. John de Wijn QC, in this regard, warns of ‘the danger of using a formula that is not reflective of the statutory test’, asking specifically ‘whether a revenue-based formula is really appropriate to determine the extent to which acquisitions are made in respect of making input taxed supplies’.39 He adds:

[A]pportionment formulas need to be much more focussed on the particular relationship. General overheads that concern the corporation generally and are simply not necessary for the making of the input taxed supply will usually not relate to making the supplies. For example, one would have thought that the cost of recovering a debt would relate to the making of the loan or whatever financial supply was made, but a computer system used to prepare a tax return may be of a more remote connection and would, therefore, not require apportionment.40

The above focus on particular relationships clearly has the advantage of greater certainty. However, hard and fast rules in determining when such relationships arise and on how apportionment should be carried out, will be difficult to formulate. A stricter approach that depends on finding particular relationships between acquisitions and supplies raises particular difficulties in applying the attribution and apportionment rules to overhead type expenses. However, the mere fact of overheads not being directly related to particular financial supplies should not, it is respectfully submitted, prevent the operation of the statutory rule denying input tax credits for overheads either wholly or in part. This at least is consistent with the decision in the AXA case41 above, which acknowledged that in the case of the relevant overhead costs, the relationship between acquisitions and input taxed supplies could be both direct and indirect.

The approach of allowing a range of apportionment methodologies extending also to overheads, instead of an alternative approach of prescribing hard and fast rules, though coming at the cost of certainty, appears now well settled. If the legislation is to operate in a way that gives effect to the statutory purpose of input taxation in accordance with the accepted model of value added taxation, such an approach appears to accord with that purpose better than one that through strict prescription allows overhead type expenses to escape input taxation. The Australian approach is broadly consistent with

40 Ibid 130.
that taken in the United Kingdom where, like Australia, methods of apportionment are not prescribed by legislation.\textsuperscript{42}

5. **APPROACHES TO CHARACTERISATION**

As a general matter, it is now well settled that the preferred approach to the interpretation of tax legislation is a ‘purposive’ approach in accordance with the general statutory rule set out in section 15AA of the *Acts Interpretation Act 1901* (Cth)\textsuperscript{43} as taken in the *HP Mercantile* case,\textsuperscript{44} in contrast to the traditional rule, that taxing laws must be construed strictly ‘within the letter of the law’.\textsuperscript{45} However, in the context of GST, the courts have generally preferred an approach to statutory interpretation that stays closer to the legal technical meaning of the statute. To some extent, the structure of the legislation as regards ‘financial supplies’ may require such an approach. The provisions defining what is a ‘financial supply’ embody a number of legal technical concepts that have a long history of evolution through case law, discussion of which this section turns to now.

First of all, whether something is the subject of a ‘financial supply’ or not depends on whether it is an ‘interest’, which in turn is defined to mean ‘anything that is recognised in law or in equity as property in any form’.\textsuperscript{46} Once something has been identified as an ‘interest’ within this meaning, that interest must then fall within one of the categories set out in Regulation 40-5-09(3) in order to become the subject matter of a financial supply. The list of subject matters of a ‘financial supply’ includes things such as relevant ‘debts’,\textsuperscript{47} ‘charges’, ‘mortgages’,\textsuperscript{48} ‘securities’\textsuperscript{49} and ‘currency’.\textsuperscript{50} All of these are concepts that have a long legal history through a significant body of case law that may be brought to bear in determining whether something falls within the relevant category of financial supply or not.\textsuperscript{51} Other matters that come into play in determining whether a ‘financial supply’ has occurred include whether there was been an ‘assignment’,\textsuperscript{52} ‘transfer’,\textsuperscript{53} ‘allotment’\textsuperscript{54} or ‘issue’.\textsuperscript{55} These too are well understood concepts at law with a legal technical meaning.\textsuperscript{56}

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\item \textsuperscript{42} See *Value Added Tax Act 1994* (UK) s 26.
\item \textsuperscript{43} *Acts Interpretation Act 1901* (Cth) s 15AA.
\item \textsuperscript{44} *HP Mercantile Pty Limited v Commissioner of Taxation* [2005] FCAFC 126.
\item \textsuperscript{45} *Partington v Attorney-General* (1869) LR 4 HL 100.
\item \textsuperscript{46} *GST Regulations*, reg 40-5 (emphasis added).
\item \textsuperscript{47} Ibid reg 40-5.09(3), Item 2.
\item \textsuperscript{48} Ibid reg 40-5.09(3), Item 3.
\item \textsuperscript{49} Ibid reg 40-5.09(3), Item 10.
\item \textsuperscript{50} Ibid reg 40-5.0 (3), Item 9.
\item \textsuperscript{51} The common law concept of what is a debt is well understood: *Ogden’s Ltd v Weinberg* (1906) 95 LT 567; *Webb v Stenton* (1883) 11 QBD 518; *Bakewell v Deputy Federal Commissioner of Taxation* (1937) 58 CLR 743; as is that of ‘mortgage’ and ‘charge’: *Santley v Wilde* [1899] 2 Ch 474, 474; *Tooth & Co v Parkes* (1990) 17 WN (NSW) 17 and *Broken Hill Proprietary Company Limited v Commissioner of Stamp Duties (Qld)* [1998] 1 Qd R 452; 36 ATR 120. For the concept of ‘security’, see CCH Australia, *Australian GST Guide* (online), para 30-900. The concept of ‘currency’ was discussed in some detail in the *Travelex* case: *Travelex Ltd v Commissioner of Taxation* [2010] HCA 33; 241 CLR 510, discussed further below.
\item \textsuperscript{52} *GST Regulations*, reg 40-5.04.
\item \textsuperscript{53} Ibid.
\item \textsuperscript{54} Ibid reg 40-5.03.
\item \textsuperscript{55} Ibid.
\item \textsuperscript{56} The case law on what is a ‘transfer’ is discussed in *Coles Myer Ltd v Commissioner of State Revenue (Vic)* (1997) 35 ATR 1: on appeal [1998] 4 VR 728; 39 ATR 163. On ‘assignments’, see *Norman v Federal**
It is not surprising therefore that the courts have had to look carefully at the legal technical meaning of the concepts employed in defining what is a ‘financial supply’. This context perhaps explains the general preference of the courts for a legal technical approach in their overall approach to interpretation of the legislation and also to the related but separate question of how transactions should be analysed to see if they fall within a defined category under the GST Regulations.

The question of what was an ‘interest’ fell for consideration in Commissioner of Taxation v American Express Wholesale Currency Services Pty Limited (discussed previously in section 4 above).\(^{57}\) The Court (by majority), in finding that the supply of rights to use a charge card or credit card was the supply of an ‘interest’ in or under a credit arrangement (and not the supply of a payment system), referred to ‘the breadth of the definition of “interest”, and the expansive notion of “property” apparent in the GST Act and the Regulations’.\(^{58}\) Kenny and Middleton JJ held that:

\[\text{[The taxpayer] supplies cardholders with an ‘interest’ within the meaning of regulation 40-5.02 when cardholders agree to the cards’ terms and conditions. Cardholders agreeing to the terms gain a bundle of rights in relation to the card, the most important of which is the right to present the card as payment and incur a corresponding obligation to pay [the taxpayer] at a later date. This is sufficient to constitute an interest under the broad definition of ‘interest’ in the Regulations.}\]

Dowsett J (dissenting) held that the charge card and credit card facilities provided to cardholders were ‘payment systems’ for the purposes of the GST Regulations.\(^{60}\) This characterisation was, in his Honour’s view, sufficient to dispose of the matter without needing to consider the technical questions going to whether there was a financial supply. The facilities in question were in his Honour’s view ‘funds transfer systems, involving [the taxpayer], the suppliers (or merchants) and the cardholders’.

The different conclusions of the majority and minority decisions stand as an example of the different outcomes capable of being produced by a more legal technical approach to statutory interpretation, on the one hand, and the approach of Dowsett J that turned more on identifying the factual workings of thing supplied, on the other.

Navigation of the ‘interest’ concept was also required to characterise for GST purposes the nature of a deed appointing proxies at a meeting of unitholders in Australian Style Investments Pty Ltd as Trustee for the Australian Style Investments Unit Trust and Commissioner of Taxation.\(^{62}\) The question in issue was whether a deed providing for proxies at unitholder’s meeting gave rise to a ‘financial supply’. The Administrative Appeals Tribunal first considered whether the deed created an ‘interest’ as defined in the GST Regulations. In finding that it did, the Tribunal held that the “interest”

\(^{58}\) Ibid para 148.
\(^{59}\) Ibid.
\(^{60}\) Ibid paras 54-66, 74.
\(^{61}\) Ibid 65.
\(^{62}\) Australian Style Investments Pty Ltd as Trustee for the Australian Style Investments Unit Trust and Commissioner of Taxation (2013) AATA 847.
provided was a chose in action which comprised the rights of action arising under the Deed in respect of each of those promises, including the promise to deliver the irrevocable proxies. What was also required was that the ‘interest’ be ‘in or under’ one of the subject matters of Regulation 40-05.09(3). While those subject matters included the capital of trusts or benefits produced by a trust, the deed did not create rights ‘in or under’ the capital of the relevant trusts. The Tribunal rejected an argument that all that was required to come within the relevant definition of ‘interest’ was that the deed ‘relate’ in some way to the securities in question. It accepted the Commissioner’s argument that:

Having regard to the ordinary meaning of the prepositions ‘in’ and ‘under’ and upon considering the expression ‘in or under’ read in the context of the provision in which it appears and its wider statutory context, in my view it requires a nexus between the ‘interest’ and the ‘matter’ mentioned in the items in the table in reg 40-5.09(3) more proximate than that for which the taxpayer contends.

Further, the Tribunal in coming to its determination of the matter found that the ‘interest’ provided by the taxpayer for the purposes of Regulation 40-5.09 upon execution of the relevant deed was to be characterised according to the legal effect of the relevant deed. Close analysis of the legal effect of the transaction under consideration also underpins the decision of the High Court in *Travelex Ltd v Commissioner of Taxation* in which the Court was called upon to determine the nature of a purchase of foreign exchange. The question was whether the purchase of foreign exchange by a traveller at an Australian airport was GST-free as supply ‘in relation to rights’ for use outside Australia. The High Court held that a supply of foreign exchange comprised a supply ‘in relation to the rights’ attaching to the currency because the sale gave the acquirer property in the currency, rejecting the argument that the rights in question were incidental to the supply of bank notes. The Full Federal Court had held that the rights in question were not the subject of the supply made on sale of the foreign currency but were consequences of becoming the holder of the currency. The High Court (per French CJ and Hayne J), in overturning the decision of the Federal Court, held that recognising that a sale of foreign currency transfers to the purchaser the rights that attach to the notes does no more than recognise the evident purpose of the transaction. Further classification or identification of the rights that pass, whether as rights against an issuing central bank, or as rights akin to those of the holder of a promissory note, is not necessary. What the Act requires is that there be a supply ‘in relation to’ rights; the operation of the Act does not call for attention to be given to the particular content of the rights.

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63 Ibid para 71.
64 GST Regulations, reg 40-05.09(3).
65 *Australian Style Investments Pty Ltd as Trustee for the Australian Style Investments Unit Trust and Commissioner of Taxation* [2013] AATA 847, paras 96-98.
66 Ibid, para 98.
67 *Travelex Ltd v Commissioner of Taxation* [2010] HCA 33.
68 *Travelex Ltd v Commissioner of Taxation* [2009] FCAFC 133; 73 ATR 463.
69 *Travelex Ltd v Commissioner of Taxation* [2010] HCA 33, para 32.
Heydon J (agreeing) held:

The legal substance of the transaction was the supply of rights. The rights supplied were the rights enjoyed by the holder of the currency as created by the statute law of Fiji. The handing over of the pieces of paper constituted, evidenced, and was not capable of disaggregation from, the supply of rights. Apart from those rights, the pieces of paper had little value.\(^\text{70}\)

The legal technical character of the transaction in question, namely a supply of rights of a particular kind, allowed the High Court to reach the conclusions that it did.

The consequences of too strict an interpretation of the legislation have been described by one commentator in the following terms:

The plain meaning of the words of the current legislative provisions invite an interpretation that is so precise that it results in the taxing of the underlying transaction itself rather than the services that facilitate that transaction. In some scenarios, this interpretation will still achieve the desired result. However, in other circumstances … the result is completely contrary to policy intention…

Clearly, in a financial supply context, proprietary interests in financial assets are transferred. Accordingly, it is not wholly inappropriate for the definition to embrace the transfer (by the provision, acquisition or disposal) of such interests. However, where a literal interpretation of the wording is adopted, the current focus on this transfer is at the expense of the underlying purpose of a GST, namely to tax consumption expenditure: what is consumed in a financial services context is not the interests themselves but rather the services that facilitate their exchange.\(^\text{71}\)

The courts to a limited extent have ameliorated the consequences of strict interpretation, applying the interpretive principle that GST is ‘a practical business tax’. The question in \textit{Waverley Council and Commissioner of Taxation}\(^\text{72}\) was whether a credit card administration fee payable in addition to council fees should be treated on a stand alone basis (as taxable) or treated in the same way as the council fees (GST-free). The Tribunal, in finding that the two amounts should not be disaggregated and should be treated in the same way, said:

We think that the fee is correctly characterised as part of the fee for the underlying supply. The person procuring the supply is buying, for example, a parking permit. There is one payment. In a practical sense there is one supply. This is the ‘practical’ … application of the tax. This is the interpretation which is not ‘unduly technical or overly meticulous and literal’ (see \textit{Saga Holidays Limited v Commissioner of Taxation} \cite{Saga_Holidays_Limited_2006} at \cite{Saga_Holidays_Limited_2006_70}; and \textit{Re AGR Joint Venture and Commissioner of Taxation} \cite{Re_AGR_Joint_Venture_2007} at \cite{Re_AGR_Joint_Venture_2007}).

\(^{70}\) Ibid para 47.


\(^{72}\) \textit{Waverley Council and Commissioner of Taxation} \cite{Waverley_Council_2009} AATA 442; 73 ATR 243.
While the concept of GST as ‘a practical business tax’ is now accepted to some extent as one of the tools for interpretation of the GST legislation, the Federal Court in *Saga Holidays Limited v Commissioner of Taxation* indicated that there were limits on how far a court can go in applying the principle:

> The Court has tended to adopt a purposive approach to the interpretation of the GST Act, rejecting strict grammatical analyses in favour of a consideration not only of the syntax but also of ‘the policy and the surrounding legislative context’ of the relevant provision: *HP Mercantile Pty Ltd v Commissioner of Taxation* [2005] FCAFC 126; (2005) 143 FCR 553 at [66]. Consideration of these aspects of the GST Act has lead to the tax being described as ‘a practical business tax’: *Sterling Guardian Pty Ltd v Commissioner of Taxation* [2005] FCA 1166; (2005) 220 ALR 550 at [39]. The description is appropriate because it draws attention to two related aspects of the tax. The fact that liability to pay the tax is imposed at various stages of the supply chain means that it is a tax on business but, importantly, one that is designed, where practicable, to quarantine business from the ultimate burden of the tax. This and other aspects of the tax legitimately form part of the context in which the language of the Act is interpreted and explains, at least in part, why the description ‘a practical business tax’ seems to be appropriate. This does not mean, however, that there is some special canon of construction that should be applied when interpreting the GST Act. The purposive approach to interpretation, of its nature, takes account of the context of the Act and the phrase, ‘a practical business tax’ is a reference to that context.

The concept of GST as ‘a practical business tax’ may allow for a departure from too strict an interpretation where the purpose of the particular provisions allows the court to do so. However, the dominant approach of the Australian courts still remains quite some distance away from the European approach of looking to the economic substance that may better achieve the legislative purpose of input taxation.

A final observation on questions of characterisation of transactions relates to the closed list of ‘reduced credit acquisitions’ set out in Regulation 70 of the GST Regulations. Much turns on whether something falls within that list or not, in that a reduced credit acquisition could reduce the input GST cost of the acquisition by up to 75 per cent, failing which the entire amount of input GST becomes a cost to the business in question. However, little disputation has arisen in the courts on questions of characterisation of reduced credit acquisitions. This may in part be due to the detailed drafting in the GST Regulations as well as the public ruling on the matter which, in accordance with the usual processes of the Australian Taxation Office, was issued after consultation with

73 Ibid para 42.
74 Robert Olding, “‘GST is a Practical Business Tax’ – ‘Spin and Rhetoric’ or an Inconvenient Truth?” (2009) 9(1) *Australian GST Journal* 1, 8-10.
75 *Saga Holidays Limited v Commissioner of Taxation* [2006] FCAFC 191; 64 ATR 602.
76 Ibid paras 29-30.
77 GST Regulations, reg 70.
taxpayers. The increasing use of technology to deliver some of the services within the
categories of ‘reduced credit acquisitions’ however may create new challenges.
Discussed in the final part of this article, these are challenges that may widely impact
on aspects of the GST scheme including the question of attribution, apportionment and
characterisation discussed above.

6. PROSPECTS AND CHALLENGES

When GST commenced in 2000, many of the issues that arose were perhaps predictable,
having regard to the experiences of other countries imposing value added taxes. These
issues included how attribution would work under the credit mechanism, rules for
apportionment of inputs between creditable and non-creditable purposes and questions
going to statutory interpretation and characterisation of supplies. Making guesses as to
future trends, unsafe in the best of circumstances, will be more difficult, particularly in
the context of a system of GST that has existed for some time now with many of the
issues having been more or less settled. However, one matter that is already coming into
focus is the challenge technological changes pose, especially the increasing deployment
of artificial intelligence (‘AI’).

AI has been known since the 1940s, but what is new is its widespread application at an
accelerating pace. Much has been written on the impact of AI on the economy as a
whole, as well as expected trends in the future,79 even if there is relatively less on the
subject in the context of taxation including tax administration. As a preliminary matter,
it would be useful to consider generally what one means by ‘artificial intelligence’. AI
has been described, at its widest, as functions that ‘employ such capabilities – previously
possessed only by humans – as knowledge, insight, and perception to solve narrowly
defined (within the current state of technology) tasks’.80

Perhaps the simplest definition is that supplied by the American commentator and writer
Jay Tuck, in which he defines AI simply as ‘software that writes itself’.81 Such a
definition appears to capture the essential nature of AI, namely a capability to gather
large amounts of information, analyse that information, make decisions based on that
analysis, continually alter the parameters for decision-making by autonomous rewriting
of the applicable software, and doing all of this without human intervention. These
capabilities have now been widely deployed to carry out functions such as pricing for
businesses (involving complex calculations with little or no human intervention).82 The
banking industry already speaks of ‘the ability of machines to replicate, and often
exceed, what humans are able to do in banking’.83

79 See Productivity Commission, Digital Disruption: What Do Governments Need To Do?, Productivity
80 Thomas H Davenport, The AI Advantage: How to Put the Artificial Intelligence Revolution to Work (MIT
81 Jay Tuck, ‘Artificial Intelligence: It Will Kill Us’, Youtube presentation, TEDxHamburgSalon (31
82 Ibid.
83 John Manning, ‘How AI is Disrupting the Banking Industry’, International Banker (4 July 2018),
https://internationalbanker.com/banking/how-ai-is-disrupting-the-banking-industry (accessed 11 July
2020).
Such technologies appear to be already deployed in taxation including GST.84 Once the relevant AI starts operating and begins to ‘self-learn’ (i.e., self-writing the applicable software program), a point may be reached where it becomes difficult for anyone to explain precisely what AI does and what methodologies are being applied. The general problem has been described as follows by the G20’s Financial Stability Board:

> The lack of interpretability or ‘auditability’ of AI and machine learning methods has the potential to contribute to macro-level risk if not appropriately supervised by microprudential supervisors.85

Manning similarly observes:

> With complex algorithms likely to be employed by AI, banking shareholders, regulators and other parties with vested interests are unlikely to be assured if there is no one around to explain the workings and methodologies of the machines.86

The implications of deploying AI in the taxation sphere are troubling in these circumstances, for example when an apportionment methodology operates under a ‘self-written’ program with no one capable of explaining how it works. This could raise challenges both for taxpayers and also for revenue authorities when auditing the apportionment methodology, both of whom need to understand how the apportionment methodology works. In future years, it may be necessary for both taxpayers and revenue authorities to learn to operate in an environment such as this, although there may be no easy solutions.

A second area of difficulty, and perhaps more fundamental matter, arises in characterisation of services in order to see where those services fall within the scheme of GST. This becomes particularly relevant when a determination is required as to whether something is a reduced credit acquisition or not for the purposes of section 70 of the GST Act.87 The closed categories of reduced credit acquisitions are set out in Regulation 70.88 They include various forms of ‘arrangement’,89 ‘mortgage broking’,90 ‘brokerage’91 and ‘management’.92 The scope of each of these relevant services at the time the GST legislation was enacted was generally well understood. Typically, all of these services involved significant human input and skill and, as a matter of the cost structure, a significant part of the cost structure of such services could be expected to be wage and salary costs.

To the extent that the courts have considered the meaning of the term ‘management’, it appears that the factor of human agency is expressed or implied in what goes to make

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86 Manning, above n 83.
87 GST Act, s 70.
88 GST Regulations, reg 70.
89 Ibid, Item 9.
90 Ibid, Item 11.
91 Ibid, Item 25.
92 Ibid, Item 23.
up ‘management’. A manager of a company has been described as a ‘person who has the management of the whole affairs of the company’. In the context of a business, ‘management’ is generally regarded as involving ‘something in the nature of the exercise of a discretionary power of control and direction of the business’, such exercise of power presumably requiring a human actor in the traditional sense of what ‘management’ is.

‘Brokerage’ (including the work of a stockbroker within the ‘arranging’ concept in Item 9) traditionally also involves a human actor. It has been held that to ‘make a man a broker, he must intermediate, and be the agent through whom the contract is made.’ How that traditional role is changing has been described as follows:

Stockbrokerage might be viewed by investors as a traditionally human-based service allowing them to buy and sell equities. When looking at the shift in how stock brokerage is different today compared to the early 2000s, the largest change seems to be in software-based automation. Put simply, a lot of what was being done by humans (such as executing trades, giving advice to investors, discretionary trading) can now be done through software.

With the rapid evolution of AI to increasingly perform an ever greater range of functions that humans previously performed, the substitution of human agency with AI in performance of services such as brokerage and management appears to be already occurring, the Financial Stability Board in 2017 noting the trend to ‘use machine learning to devise trading and investment strategies’.

If the factor of human agency forms an inherent part of the definition of the relevant services as the case law might suggest, it is conceivable that the performance of the relevant services by AI, substantially or alone, raises basic definitional questions as to whether the service in question remains within the relevant category of ‘management’ or ‘brokerage’ within Regulation 70, where there is a fundamental change in the way that the service is delivered through the exclusion of human actors. That the meaning of words used in legislation is not static and can evolve to capture things not within the original meaning is accepted in that a court will have regard to ‘the sense in which words are currently used’. This may allow some scope to extend the understood meaning of terms such as ‘management’ and ‘brokerage’. However, if the services in question evolve into something else, so that they form part of some overarching ‘processing’ service that falls outside an existing reduced credit acquisition category, obvious

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93 Gibson v Barton (1875) LR 10 QB 329.
94 Barac v Farnell (1994) 53 FCR 193, 197 (emphasis added).
95 See Australian Taxation Office, ‘Goods and Services Tax: Reduced Credit Acquisitions’, GSTR 2004/1, paras 285 to 301.
96 Milford v Hughes (1846) 16 M & W 174.
99 Financial Stability Board, above n 85.
100 GST Regulations, reg 70.
consequences arise. These are not questions that are merely speculative but are current, as a result of changes in the way services can now and are being delivered in financial markets. No clear answers however can safely be proffered on how these changes impact GST until the matters in question are resolved either by legislative action or by the courts.

As a concluding observation, policy-makers may also need to consider the broader impact of technological change associated with AI on the common model of value added tax as it applies to financial supplies. The classic explanation for that model of input taxation is that, though not economically ideal, it is a necessary consequence of the inability to ascertain the ‘value add’ component of financial supplies, so that the currently accepted position of the Organisation for Economic Co-operation and Development (OECD) remains that ‘transactions made by business are exempt because the tax base of the outputs is difficult to assess’ (eg. many financial services). The problems created by input taxation of financial supplies in this context has been described as follows by the OECD:

Although it is a significant departure from the basic concept for VAT, all OECD countries apply a number of exemptions. A wide variety of motivations exist for the application of that exemption. These include the difficulties of determining the tax base (eg. financial and insurance services) …

VAT exemptions introduce a cascading effect when applied in a B2B context. The business making an exempt supply can be expected to pass on the uncreditable input tax by including it in the price of the supply. This ‘hidden tax’ will subsequently not be deductible/recoverable by the recipient business. If the outputs of this recipient business are not also exempt, this hidden VAT will presumably be part of the price for the supplies on which it will charge output VAT. The result is a hidden tax at a variable rate depending on the number of production stages that are subject to the tax …

Exemptions generally lead to the under-taxation of supplies to consumers … and an over-taxation of businesses who are unable to deduct the ‘hidden’ tax embedded in their inputs.

If developments in AI allow for greater ease in making complex calculations of the cost elements making up the supply chains and of value generated by a business, it may be the case that, at a future point in time, the very rationale of input taxation may need to be revisited. With the increasing ability of AI to analyse, process and collect vast amounts of data well beyond human capabilities to do so, the consequence may be that determining the amount of ‘value add’ for financial supplies may become less problematic at a future date. Such an eventuality would mean a radical change to the

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104 It is suggested that the point in time when AI can sharpen supply chains is not far off. See Joe McKendrick, ‘Artificial intelligence may compensate for the opaqueness of supply chains’, *ZDNet* (9 January 2019), https://www.zdnet.com/article/adding-intelligence-to-the-supply-chain/ (accessed 11 July 2020).
basic assumptions underlying the value added tax model for the taxation of financial services, namely the problems in finding the ‘value add’ component.

The change AI is already bringing to bear is real enough even if the full impact of those changes may not occur overnight. To remember what is known as ‘Amara's law’ in this regard may not go amiss, namely that ‘we tend to overestimate the effect of a technology in the short run and underestimate the effect in the long run’. Although making too many predictions in a volatile and rapidly evolving area will not be prudent, in the medium to longer term, the application of AI in relation to taxation of the finance sector cannot be ignored.

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