The Distributional Impact of the Goods and Services Tax: A Reply to Gillespie

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PRÉCIS

Dans cet article je réponds aux observations de W. Irwin Gillespie qui avait critiqué mon article sur l'effet de la Taxe sur les produits et services (TPS) sur la répartition du revenu. Les problèmes que Gillespie qualifie de "problèmes analytiques" dans mon article ne sont en réalité pas des problèmes du tout. Ils reflètent simplement les différences d'opinion quant aux hypothèses les plus appropriées pour faire l'analyse d'impact des effets de la TPS sur la répartition du revenu en recourant à un modèle de microsimulation tel que la base de données et le modèle de simulation que Statistique Canada utilise pour l'étude des politiques sociales.

Gillespie prétend par exemple que les 4 milliards $ d'épargne fiscale provenant de la suppression de la Taxe sur les ventes des fabricants applicable aux biens d'investissement devraient être attribués en 1991 aux familles en leur capacité de propriétaires. À mon avis, l'hypothèse la plus raisonnable pour une analyse d'impact est qu'une portion des 4 milliards $ sera absorbée par l'impôt sur les sociétés, et que les entreprises conserveront le reste sous forme de bénéfices non répartis qui pourront être investis en vue des possibilités d'expansion à long terme créées par l'introduction de la TPS. Cette hypothèse est fondamentalement identique aux hypothèses utilisées par le ministère des Finances dans ses prévisions sur les effets de la TPS, et à l'hypothèse de Neil Brooks dans son étude des effets de la TPS sur la répartition du revenu.

Gillespie soulève également trois questions théoriques se rapportant à l'estimation de l'effet de la TPS sur la répartition du revenu : la distinction entre les effets d'impact et les effets à plus long terme, le choix d'hypothèses appropriées quant à l'incidence de l'impôt, et la définition du concept de revenu. Les remarques de Gillespie sont intéressantes si l'on veut discuter de certaines autres méthodes et hypothèses pouvant servir à estimer l'impact de la TPS sur la répartition du revenu. Néanmoins, dans mon article précédent, les

* Of Global Economics Ltd., Ottawa. I would like to thank Michael Wolfson of Statistics Canada for his helpful comments on an earlier draft of this reply.

estimations de l'impact de la TPS sur le secteur des ménages en 1991 ne contiennent aucune exagération significative quant au fardeau fiscal associé à la TPS, et ne créent certainement pas de fardeau fiscal là où celui-ci est inexistant.

ABSTRACT

This article is my response to W. Irwin Gillespie's Critique of my article on the distributional impact of the goods and services tax (GST). What Gillespie calls the ''analytical problems'' in my article are not really problems at all. They are simply reflections of the fact that opinions differ about which assumptions are the most appropriate ones to make in using a micro-simulation distributional model such as Statistics Canada's Social Policy Simulation Database and Model (SPSD/M) to carry out an impact analysis of the distributional impact of the GST.

For example, Gillespie argues that the $4 billion in tax savings that arises from the elimination of the manufacturers' sales tax on investment goods should be allocated in 1991 to families in their capacity as owners. In my view, the most reasonable assumption to make for the purposes of an impact analysis is that part of the $4 billion will find its way into government coffers through the corporate income tax and that the balance will be kept by businesses as retained earnings to be used to finance the investment needed to take advantage of longer-term opportunities for expansion created by the GST. This assumption is essentially the same as the assumptions made by the Department of Finance in its projections of the effects of the GST and Neil Brooks in his study of the distributional impact of the GST.

Gillespie also raises three theoretical issues related to the problem of estimating the distributional impact of the GST: the distinction between impact effects and longer-term effects, the appropriate choice of incidence assumptions, and the definition of income. Gillespie's remarks are of interest as a discussion of some alternative approaches and assumptions that one could make in estimating the distributional impact of the GST. Nevertheless, the estimates in my previous article of the distributional impact of the GST on the household sector in 1991 do not involve any significant overstatement of the tax burden associated with the GST and certainly do not create a tax burden where none exists.

INTRODUCTION

This article is my response to W. Irwin Gillespie's critique, elsewhere in this issue, of my article in the May-June 1990 *Canadian Tax Journal* on the distributional impact of the goods and services tax (GST) in 1991, its first year of operation.[1] As I show below, what Gillespie calls the "analytical problems" in my article are not really problems at all. They are simply reflections of the fact that opinions differ about what assumptions are the most appropriate ones to make in using a micro-simulation distributional model such as Statistics Canada's Social Policy Simulation Database and Model (SPSD/M) to carry out an analysis of the distributional impact of the GST. The estimates in my earlier article of the distributional impact of the GST on the household sector do not involve any significant overstatement of the tax burden created by the GST. They certainly do not involve "the creation of a tax burden where no tax burden exists."[2]

The structure of this reply follows that of Gillespie's critique. The next section discusses the presentation of the government's GST package. It is followed by sections that contain my response to the specific criticisms raised by Gillespie and my reaction to three theoretical issues that he raises.

THE GOVERNMENT'S GST PACKAGE

Table 1 in Gillespie's article is a clear presentation of the government's GST package.[3] A Study of the GST by Neil Brooks includes a similar table.[4] Although I did not include such a table in my article, I did prepare one and use it as a check in carrying out my analysis to make sure that I was representing the GST package accurately. I performed the check by comparing my costing of the elements of the GST package with the costing carried out by the Department of Finance.

Gillespie's table identifies five elements of the GST package as sources of "analytical problems" in my article. I expressly considered each of these elements in the process of preparing the article, and in my view I have treated them appropriately in my analysis within the framework of the SPSD/M. I discuss the alleged "analytical problems" in the next section.

"MY" PACKAGE IS THE GOVERNMENT'S GST PACKAGE

The "major analytical problem" that Gillespie claims to identify is my treatment of the $4 billion in tax savings that arises from the elimination of the manufacturers' sales tax (MST) on investment goods. I disagree with Gillespie's assertion that one should allocate this amount in 1991 to families in their capacity as owners of businesses. Gillespie's view does not give adequate weight to the key distinction between the corporate sector and the household sector—a distinction that is central to the SPSD/M and one that

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[1] W. Irwin Gillespie, "How To Create a Tax Burden Where No Tax Burden Exists: A Critical Examination of Grady's 'Analysis of the Distributional Impact of the Goods and Services Tax,'" in this issue, at 925-36.

[2] Patrick Grady, "An Analysis of the Distributional Impact of the Goods and Services Tax" (1990), vol. 38, no. 3 *Canadian Tax Journal* 632-43.

[3] Supra, footnote 1.

[4] Neil Brooks, *Searching for an Alternative to the GST*, Discussion Paper 90.C.1 (Halifax: Institute for Research on Public Policy, February 1990).

provides a useful operational basis for distinguishing between direct and indirect impacts. A tax on the household sector has a direct impact on the household sector, whereas a tax on the corporate sector has only an indirect impact on the household sector. Given this distinction, the direct impact of the \$4 billion shift in the tax burden is to put money into the hands of corporations; a transfer of this money back to the household sector would be an indirect impact of the shift. Moreover, it is not reasonable to assume that this money would be passed on to the household sector even indirectly in 1991. The most reasonable assumption, in my view, is the one that I made in my article, namely that part of the \$4 billion will find its way into government coffers through the corporate income tax and that the balance will be kept by businesses as retained earnings and used to finance the investment needed to take advantage of longer-term opportunities for expansion created by the GST.

In 1989, only 13 percent of corporate profits before tax were paid out in dividends to Canadian residents and 9.9 percent to non-residents, who of course do not count as Canadian families. A significant proportion of these dividends was paid out to pension funds and life insurance companies. Given the special circumstances that produce the profits associated with the elimination of the MST on investment goods, it is entirely appropriate in an impact analysis to assume that the profits do not increase the income of the household sector. Moreover, even if the dividends were paid out of the \$4 billion and were paid entirely to Canadian families, the payout ratios for 1989 (the most recent year for which full-year data are currently available) suggest that the income of Canadian families would increase by \$532 million—not \$4 billion as Gillespie contends. Of course, a small portion of the increase in profits would arise in the unincorporated business sector, but it is reasonable to suppose this amount would go toward financing the GST-induced expansion in investment and thus would not be available to Canadian families for spending in 1991.

Even under the unrealistic assumption that all of the increase in corporate income from the elimination of the MST would go to the household sector—an assumption that ignores the fact that about half of the manufacturing sector is foreign-owned—only a small percentage of the increased income would go to families with earnings of less than \$30,000 per year. So even though the aggregate burden of the GST would disappear, the burden on low-income earners would remain.

Like the matter of the \$4 billion, the other "analytical problems" cited by Gillespie are not real problems. Gillespie objects, first, to my treatment of certain components of the GST package and, second, to the omission from my analysis of certain other components. The "problem" in the first instance is simply that Gillespie and I differ in our views about how to treat these particular components of the GST package. As to the "problem" of my omission of two components of the package, I shall argue below that the omission of these components facilitated the analysis and did not significantly distort its results.

I shall deal with Gillespie's objections in the order in which he raises them. First, my analysis assumed that the $0.2 billion in revenue from the large corporations tax in 1991 would come out of retained corporate earnings. This assumption is, in my view, a reasonable one to make in an impact analysis for 1991, and it is consistent with my approach of including only direct impacts on the household sector in the analysis.

Second, I excluded the $0.5 billion housing rebate from family income because, as I noted in my article, there is no information in the SPSD database on the acquisition of new housing. Since the rebate was designed to compensate purchasers of new homes (except for those who purchase expensive homes) for the difference between the GST on a new home and the MST, it is appropriate to exclude the housing rebate as long as one also excludes the increased indirect taxation of owner-occupied housing. Indeed, if one includes the housing rebate as Gillespie suggests without also including the increase in indirect taxation that arises from the replacement of the MST by the GST, the result will be a biased estimate of the distributional impact of the GST package. To paraphrase my article again, the omission of the GST levied on residential construction and the housing rebate should not significantly distort the analysis of the distributional impact of the GST, since most families will not purchase or rent new housing in 1991.

Third, I did not include in my family income the one-time business credit for small business because it will largely take the form of a transfer to the corporate sector. Again, my assumption is that the corporate sector will retain the credit and not pass it on to the household sector, an assumption that is consistent with my approach of including only direct impacts on the household sector in my analysis. In fact, this credit cannot be viewed as a real increase in the income of the corporate sector, since it will only partially compensate businesses for the costs that they will have to incur in order to put systems for compliance with the GST in place. Gillispie estimates that the credit will cost $1 billion, but no official estimate of the cost is available and it could be much lower.

Finally, my analysis did not incorporate the $0.2 billion increase in administration costs on the one hand or the $0.7 billion reduction in government expenditures on the other because no reliable information was available that would enable me to allocate the resulting income among families. Even if the requisite information were available incorporating it in the model would be difficult, since this undertaking would require the construction of a new database. In any case, the increase in administrative costs partially offsets the expenditure cuts, and the net amount is not so large that its exclusion distorts my overall analysis.

The reader may be interested to know that my analysis of the distributional impact of the GST corresponds very closely to an analysis carried out independently by Neil Brooks.[5] Brooks too assumed that the approximately

[5] Ibid.

$4 billion in MST on investment goods was not passed on to the household sector. Most other analyses of the macroeconomic impact of the GST, including the analysis carried out by the Department of Finance, have made the same assumption. Brooks also made the same assumptions as I did about administration costs, the large corporations tax, and government expenditure cuts. So I am presumably not alone in disagreeing with Gillespie's suggested treatment of these items.

As the reader can see, the "analytical problems" Gillespie claims to have found in my article all turn out not to be real "problems" on closer scrutiny. The estimates of the distributional impact of the GST package on the household sector in my previous article involve no significant overstatements and do not create a tax burden where none exists.

Footnote 12 in Gillespie's article questions my table 3. It is true, as Gillespie suggests, that I omitted a non-trivial component of the GST package from the table, though I did not omit it from my analysis. The missing component is the quarterly indexing of the old age supplement, guaranteed income supplement, and the spousal allowance for the final three quarters of 1991.[6] This component reduces the decrease in average consumable income by $17 at the average family income level and is especially significant for the second, third, fourth, and fifth income groups, for which it reduces the decrease by, respectively, $51, $36, $35, and $15 per family. I should probably have included this component in the table. Another omission from the table, the decrease in provincial commodity taxes mentioned in the text, is much less significant. In spite of these omissions, none of the numbers in the table are incorrect.

THEORETICAL ISSUES

Gillespie's critique of my article raises three theoretical issues that merit discussion.

The first issue is the distinction between impact effects, full fiscal year effects, and longer-run equilibrium effects. Gillespie correctly points out that it is important to keep this distinction in mind, which is just what I did in my article. His two criticisms here are that I ignored the one-time transitional credit for small business and that I used the term "long-run" in referring to my incidence assumption. As I have noted above, I ignored the transitional credit because ignoring it was the appropriate thing to do; as I shall argue below, my incidence assumption was the most reasonable one to adopt for an impact study.

It is difficult to interpret the estimates of the fiscal year effects of the GST presented by the Department of Finance, since they include no reference to the fiscal year to which they apply.[7] For some items, the fiscal year is pre-

[6] I mentioned this component in my description of the GST package, analyzed supra footnote 2, at 635, but not in my discussion of table 3.

[7] Canada, Department of Finance, *Goods and Services Tax* (Ottawa: the department, December 19, 1989), 15 and 33-35.

sumably 1991-92; for others, it is 1992-93. This imprecision could lead to inappropriate aggregations or comparisons and make it possible for the Department of Finance to conceal awkward fiscal details. The department should publish its fiscal year estimates on a year-by-year basis or at least specify a single fiscal year for all items.

As to Gillespie's comment that the net decrease of consumable income in 1991 of $4.6 billion "will vanish in 1992," I warn him that the task of calculating the 1992 impact is not as simple as he suggests. First, there is the question of how much of the saving to firms as a result of the elimination of the MST on investment goods will be passed on to the consumer in 1992. Gillespie implicitly assumes that all of it will be passed on, even though about half of the manufacturing sector is foreign-owned. Furthermore, he does not allow for the fact that the difference between the revenue generated by the GST and the revenue formerly generated by the MST will grow over time with the growth of the tax base. Finally, Gillespie does not take into account the fact that the GST credit and thresholds are indexed to the consumer price index (CPI) less 3 percent, and hence their real value will decline over time. Any firm conclusions about the distributional impact of the GST in 1992 would require a complete analysis, using the SPSD/M, along the lines of the analysis I performed for 1991.

The second issue raised by Gillespie is the question of what assumptions about tax incidence one should use in estimating the distributional impact of a policy change. Gillispie questions my incidence assumptions but offers no more plausible alternative for impact analysis. I am convinced that for the purposes of analyzing the direct distributional impact of the GST package in 1991 the most reasonable assumption to make is that the MST or GST levied on consumer goods is borne by the consumer in the form of higher consumer prices and that the removal of the MST levied on investment goods will not result in declines in the prices of consumer goods in 1991. It is important to remember that this is an impact incidence assumption and does not allow for any shifting of the tax by the groups that the GST is imposed on or the MST removed from. In addition, this assumption specifically rejects the alternative assumption advanced by some researchers that the removal of the MST on consumer goods will not fully be passed forward.

My incidence assumption is the same as the one that the Department of Finance made in specifying the direct impact of the GST package for the purpose of its own macroeconomic analysis[8] and is consistent with the department's estimate of a 1¼ percent increase in the CPI. In a discussion of the price impact of the GST package, the most recent Department of Finance paper on the GST states that

> The price impacts are measured under the assumption that all the savings from the FST [federal sales tax—that is, the MST] elimination, with the exception of the FST paid on capital goods, will be quickly passed on to consumers. The

[8] Canada, Department of Finance, *Goods and Services Tax: Technical Paper* (Ottawa: the department, August 1989), 39.

savings from the FST on capital goods are assumed to be reflected in consumer prices over time.[9]

My incidence assumption is also the same as the one that the GST Consumer Information Office made in preparing its estimates and thus can be said to represent in some sense the government's expectations about the incidence of the GST package. The office's *Consumer's Guide to the GST and Prices* notes that

> [e]stimated savings from the FST removal are the first year savings. Savings that could come over the longer term from the removal of the FST from investment inputs (e.g. machinery and equipment) are not taken into account.[10]

It is reasonable to suppose that the government will use some "moral suasion" to help ensure that this incidence assumption becomes a reality in 1991.

The incidence of the GST package in the long run will no doubt be different from its incidence in the short run. The savings from the removal of the MST on investment goods is much more likely to be passed on to consumers over the longer run as firms put in place new capital goods that are not subject to the GST. But the proportion of the capital stock that will be replaced in 1991, the first year of the GST, is relatively small. For this reason, it is appropriate to assume that in 1991 the business sector will retain the savings that arise from the removal of the MST on investment goods.

It is also true that in the longer run the allocative effects of replacing the MST with the more neutral GST—effects that one can estimate with the use of a general equilibrium model[11]—will benefit the household sector. It is neither possible nor appropriate, however, to take this prospect into consideration in an impact analysis.

I share Gillespie's hope that some analyst will take up the extremely difficult task of estimating the long-run equilibrium effects of the GST package. But I would caution him that this exercise is a much more subjective one than the estimation of first-year impact effects and would inevitably give rise to much controversy.

There is another type of analysis, one that Gillespie does not mention—medium-term analysis based on macroeconomic models. This approach allows one to take into account the indirect impact of the GST package as well as the direct impact and provides year-by-year estimates, not just equilibrium estimates. Macroeconomic estimates of the impact of the GST package generally show a small decrease in output in 1991 as a result of the shift in the tax burden onto the consumer sector and an increase in interest rates

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[9] Supra footnote 7, at 21.

[10] Canada, Goods and Services Tax Consumer Information Office, *Consumer's Guide to the GST and Prices* (Ottawa: the office, September 20, 1990), 16.

[11] Bob Hamilton and Chun-Yan Kuo, *The Goods and Services Tax: A General Equilibrium Analysis*, Working Paper 89-3 (Ottawa: Department of Finance, Tax Policy and Legislation Branch, 1989).

precipitated by the one-time increase in the consumer price index.[12] The differences between macroeconomic estimates of a decline in output in at least the first year resulting from the GST package and the general equilibrium estimates of a long-run increase in output complicate the task of ascertaining the indirect impact of the GST in 1991.

Gillespie argues that I should have carried out a sensitivity analysis of the effects of different incidence assumptions on the distributional impact of the GST package. This exercise would have been of some interest, no doubt. I chose not to undertake it, however, since I felt that it would detract from the main purpose of my article, which was to provide my best-point estimates of the distributional impact of the GST package in 1991 based on the most reasonable set of incidence assumptions and compare these estimates with those produced by the Department of Finance. In my view, the presentation of alternative impact estimates derived from sensitivity analysis would have obscured the main line of the argument in my article and made my results less directly comparable with the estimates that the Department of Finance used in determining an appropriate value for the sales tax credit. I believe that my approach was useful in calling into question the Department of Finance's claim that the GST credit ensures "that families earning less than $30,000 are better off as a result of sales tax reform."[13]

The third issue raised by Gillespie is the definition of income and the choice of an appropriate income base for the purpose of estimating income distribution. Although it is probably true that the definition of income used in the SPSD/M is not broad enough for more general studies of income distribution,[14] it is quite satisfactory for the purpose of analyzing the distributional impact of the GST. The SPSD/M database actually provides a better measure of income than does the *Survey of Consumer Finances*, since it corrects the understatement in the *Survey* of unemployment insurance benefits, social assistance, and the income of high-income tax filers. The SPSD/M contains the income tax information required for accurate calculation of the distributional impact of the increase in the sales tax credit and the increase in the high-income surtax. It also contains the information on family expenditures and effective commodity tax rates required for estimating the impact of changes in commodity taxes such as the GST and the MST. Although Gillespie's comments on the definition of income are of some interest from the point of view of sensitivity analysis, the definition of income that I used in my article is appropriate and is also the most practical one to

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[12] For a discussion of estimates of the 9 percent GST package, see Patrick Grady, "Comparison of the Macroeconomic Estimates of the Impact of the GST," presentation to a seminar on the GST sponsored by the Ottawa Economics Association, Ottawa, December 6, 1989.

[13] Supra footnote 7, at 18.

[14] Another study based on the SPSD/M used a more general definition of income, one that imputes benefits for health and education. See Brian B. Murphy and Michael C. Wolfson, "When the Baby Boom Grows Old: Impacts on Canada's Public Sector," a paper presented to the United Nations Economic Commission for Europe, Seminar on Demographic and Economic Consequences and Implications of Changing Population Age Structure, Ottawa, September 24-28, 1990.

use in carrying out an analysis of the impact of the GST in its first year of operation.

In conclusion, I emphasize that, Gillespie's opinions nothwithstanding, the estimates in my previous article of the distributional impact of the GST on the household sector in 1991 do not involve any significant overstatement of the tax burden associated with the GST and certainly do not create a tax burden where none exists.