A Select Replication of the Cecchini Microeconomic Methodology on the EFTA Financial Services Sectors: A Note and Critique

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The widely publicised Cecchini [1988] study emphasised the importance of deregulating financial services sectors within the overall economic gains hypothesised from completing the EC internal market. This note replicates the Cecchini microeconomic methodology on the EFTA (European Free Trade Association) financial services sectors. Some of the key assumptions made by Cecchini, together with significant data collection and financial product comparison problems, are exposed and clarified through this replication exercise. Against this background, the Cecchini microeconomic approach to financial services integration is re-evaluated as an empirical methodology and concluded to be only indicative at best.

INTRODUCTION AND BACKGROUND

The continuing pace of dramatic developments in the financial sectors of Central and Eastern Europe has heightened the policy implications and economic consequences of the SEM (Single European Market) and a corresponding, integrated European financial sector. Although the focus on the SEM, or 'Europe 1992', has shifted to some extent (albeit, perhaps, temporarily) with recent European Monetary Union problems, the economic potential of an even bigger, integrated European market has been debated for some time and appears to be attainable. It is within this environment that EFTA and EC integration have been important and interesting policy issues

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during the past decade. The research reported in this note[1] replicates a key part of the Cecchini microeconomic methodology on the financial services sectors of the EFTA countries.[8] A unique and extensive dataset was collected for this replication exercise.

The Cecchini study [Commission of the European Communities, 1988] produced quantitative estimates of the possible order of the economic gains arising from EC financial sector integration; Price Waterhouse Management Consultants (Dublin) were commissioned by Cecchini to undertake the microeconomic study of the financial services sector [Price Waterhouse Management Consultants (Dublin), 1988]. Within the overall Cecchini exercise, the financial sector was confirmed as being particularly important. Cecchini estimated that up to one-third of the growth expected from the SEM during the first six years after 1992 may be expected to flow, directly and indirectly, from the expansion of financial services. The direct economic benefits from expanding EC financial services were proxied by the respective CS (consumer surplus) gains estimated by Cecchini. Corresponding indirect benefits include an increased efficiency of resource allocation for those sectors using financial markets and an increased potential for the improved conduct of macroeconomic policy. Integration of the financial services sectors of the EC-8[2] countries studied by Cecchini was estimated to produce economic gains alone of the order of ECU 22 billion.

The EC single market programme has special significance for the EFTA countries as close neighbours to the EC and this has generated much interest among policy-makers, financial services firms (FSFs) and researchers. For instance, Krugman [1988] argued that it was important for EFTA to share in the benefits flowing from a unified EC market and that failure to participate might well worsen EFTA's current relative position. Wallace and Wessels [1989] discussed the practical options open to the EC and EFTA in the search for a closer partnership. A study by Wieser [1989] concluded that price levels in the European Economic Space (subsequently to become the European Economic Area, the EEA, comprising the EC and EFTA countries combined) differed by an amount greater than was observed between EC countries. The Cecchini microeconomic methodology for computing the gains from economic integration focused on these kinds of price differences and simulated (hypothesised) post-integration price falls.

Despite its widespread publicity and some considerable criticism, however, many of the assumptions made within the Cecchini microeconomic exercise on the EC financial services sectors have not been published or made clear. This note reports on some of the most important of these assumptions used within the computation of CS gains, the main empirical component of the Cecchini microeconomic methodology applied to financial services. Related problems associated with data collection and the respective compara-

bility of financial products and services between countries are highlighted and explored. The unpublished estimates of the erosion of 'super-normal profits' in FSFs within a Cecchini-type exercise (and the respective modelling difficulties) are also introduced. A more informed re-evaluation of the Cecchini microeconomic approach applied to financial services sectors is undertaken against the background of this research and replication exercise. The research summarised in this note is the result of two, recent large-scale research studies: see Gardener and Teppett [1990a, 1992; 1990b; 1991]. To the authors' knowledge, these are the only major research replication exercises undertaken of the Cecchini microeconomic methodology applied to European financial services sectors.

THE CECCHINI MODEL

A growing academic literature, theoretical and empirical, has explored the issue of the segmentation of international capital markets, e.g. see Howe and Madura [1990], Errunza and Losq [1985], Stultz [1981] and Errunza et al. [1992]. The question of the degree of capital market integration across national boundaries remains important and controversial. Within this literature, the pricing of assets is a key statistic and dynamic, both in theory and empirically. Similarly, pricing data and the related pricing dynamics and assumptions are a key part of the Cecchini microeconomic approach applied to the EC financial sectors. However, the Cecchini approach did not employ the more common, 'standard' finance models (like the Efficient Markets Hypothesis and Capital Asset Pricing Model).

Cecchini was concerned with the wider impact of a postulated deregulation process on a broad spectrum of financial markets and many financial products with varying characteristics. Eight EC countries[2] were surveyed and Cecchini sub-divided their financial services sectors into three broad sub-sectors: banking, insurance and securities. Sixteen financial products[3] were surveyed spanning these three sub-sectors. The Cecchini estimates of the costs of 'Non-Europe' were based primarily on a set of assumptions about how prices on these products would move in an integrated financial market.[4]

The Cecchini exercise built on work by Venables and Smith [1986] and others, including Krugman [1979] and Harris [1984]. This work suggested that producers may experience internal economies of scale leading both to inefficient and small-scale production when the market is restricted within national boundaries and to an oligopolistic market structure. A non-integrated Europe, therefore, results in average costs being unnecessarily high; the mark-up of prices over marginal costs is also higher than necessary to cover fixed costs. This economic perspective suggests that the consequences of opening up trade are to lower unit costs by facilitating more use of the

economies of scale and (probably) lower the mark-up of prices over marginal costs to the extent that oligopoly is weakened. Whilst the consumer will gain – increased consumer surplus (CS) resulting from price falls and increased output and purchasing of these products and services – there will also be reductions in the excess profits of producers.

Figure 1 illustrates diagrammatically the CS gains (shaded area P_1 A B P_2), the change in CS, computed by Cecchini; DD_1 is the industry demand curve for a financial product, and P_1X_1 is the pre-integration price and output (production) levels, respectively. Completion of the internal market is assumed to reduce prices (from P_1 to P_2) and simultaneously, increase output (from X_1 to X_2).

FIGURE 1
CS GAINS ASSOCIATED WITH A CECCHINI–TYPE EXERCISE
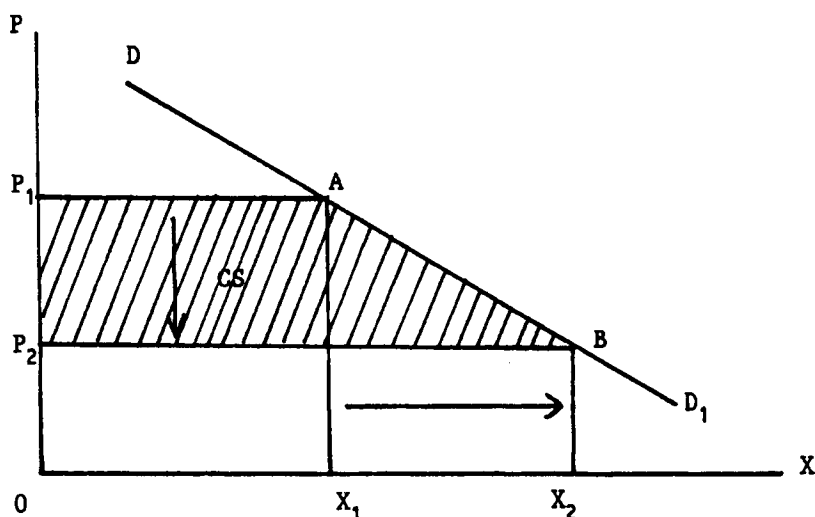
The Cecchini research hypothesised two 'Cases' for empirical examination. Case 1 (pure cost differential) was concerned exclusively with the CS estimates (P_1 A B P_2 in Figure 1), and these were the basis of the economic gains, the 'welfare change', proposed by Cecchini from completing the EC internal market in financial services. In this case, the source of price differentials arises solely because some countries are able to produce financial services at lower cost at all levels of output. There will be no reductions of FSF super-normal profits or loss of producer surplus[5] under this scenario because of the assumed, pre- existing competitive markets.

The CS model used is of a standard microeconomic form and is shown below:

$$\Delta CS = \frac{1}{1-e}\ px\ (1 - (1 - \lambda)^{1-e}) \tag{1}$$

In equation (1), the change in consumer surplus (ΔCS) is derived from data on value-added in financial sectors (px); a hypothetical price fall scenario, where λ is the computed price difference (fall); and an elasticity estimate (e) derived from a study by Babbell [1985]. In terms of the assumed demand curve, CS is simply modelled as the integral between two prices:

$$CS = \int_{P_1}^{P_2} x\ (p)\ dp \tag{2}$$

The Cecchini research group on financial sector integration effectively employed a variant of the law of one price. It was assumed that prices of each financial service or product would converge (downwards) to a Lower Reference Level Price (LRLP), the average of the four lowest prices surveyed for each of the sixteen financial services or products covered by the exercise [see Gardener and Teppett, 1991]. Each LRLP is effectively a 'convergence price', the price towards which the respective financial service or product moves; λ, in equation (1), reflects the difference between the actual survey price for each financial product, less the respective LRLP for that product.

Even with the absence of economies of scale or of cost differentials, however, it may be that non-competitive behaviour is maintaining a higher price. Under this polar case, price is a pure mark-up over marginal cost, and these price differentials reflect oligopoly power by producers; this is the second of the two 'cases' hypothesised. Within the Cecchini research, an estimate of the pure oligopolistic profits (Case 2) was derived under a Cournot-Nash model of non-competitive behaviour to produce equation (3):

$$\pi = px - [K + px\ (1 - H/e)] \tag{3}$$

with pure profits (π), total revenue (px), fixed costs (K), total variable costs represented as dependent upon firm concentration (H is the Herfindahl index), and the same elasticity estimate (e) used in the corresponding CS estimates in equation (1). The Cecchini research group assumed that (H/e) is a constant, which may be labelled α. A constant α implies a fixed number of firms, and so K must also be constant.

Equation (3) may, therefore, be rewritten:

(4)

$$\pi + K^- = \alpha\, px$$

Differentiating equation (4) with respect to p and re-arranging terms, we can derive equation (5):

(5)

$$\frac{d\pi}{dp} = \alpha x\,(1+e)$$

The equation (5) result implies that, in terms of small differences $\Delta\pi$ and Δp:

(6)

$$\Delta\pi = \alpha x\,(1+e)\,\Delta p$$

where e is negatively signed. Equation (6) is the formula used within the Cecchini exercise to compute the change (reduction) in super-normal profits under Cournot-Nash assumptions.

Despite the fact that one might expect reductions in oligopolistic profits to be a significant issue,[6] the widely-reported Cecchini results excluded them. An important view from the Cecchini research appeared to be that the longer-term, dynamic gains from financial sector integration would be far more important than (and substantially outweigh) these short-period (static) losses. In reality, however, the adjustment process itself, embodying the erosion of immediate excess capacity in FSFs, might be more important than the hypoth-esised end result derived from the kind of comparative statics approach employed by Cecchini. However, these are theoretical and empirical issues that are beyond the remit and scope of the present research. Modelling the erosion of super-normal profits in the present context is fraught with many complex and difficult problems.[7] For our immediate purposes, however, one need only emphasise that the reported results of the Cecchini microeconomic methodology and the related simulation exercises focused exclusively on the hypothesised CS gains, equations (1) and (2).

SIMULATIONS AND RESULTS

The Cecchini microeconomic methodology was replicated using comparable EFTA data. These data were collected in as close a format (same financial products, sectors and survey years) as that used in the original Cecchini research. This strict replication was dictated in large part by a need to preserve the comparability of the EFTA results with those of the original EC-8 finan-

cial services sectors surveyed by Cecchini. The replication exercise high-
lighted several key methodological and technical assumptions used by
Cecchini in deriving the CS estimates.

In collecting the needed price and related data for the EFTA financial ser-
vices sectors, the researchers were assisted by the EFTA Economic Secretariat
in Geneva. An 'expert group' of high-level financial sector contacts was
established (through EFTA) in each of the EFTA-6 countries, and the
researchers collected the primary data and complementary information large-
ly through this route, supplemented by official statistics and other secondary
sources. The preliminary results of this research were reported to this group
and other EFTA members at a seminar in Geneva (April 1990), which was
also used as a kind of 'brainstorming' session on data collection and other
practical difficulties. It was only through the direct involvement and spon-
sorship of EFTA in this way that the unique dataset needed to replicate the
Cecchini microeconomic methodology could be collected. A previous study
[Gardener and Teppett, 1990b] had also collected cognate data in this same
way, and alerted the researchers to the practical difficulties in building up the
needed datasets for this kind of simulation exercise conducted simultaneous-
ly for several countries.

The 1987 price survey data (the same survey year used by Cecchini) were
converted into price differences, which were, in their turn, converted into sim-
ulated price falls. These price differences (related to λ in equation [1]) were
computed for each financial product by comparing the actual survey result
(for year 1987) with the respective LRLP. As was explained earlier, the LRLP
is simply the average of the four lowest survey prices for each of the sixteen
financial services or products across all countries.[8] Under Cecchini's price
convergence assumption, this LRLP was the hypothesised level towards
which prices converge in the completed internal market. These price conver-
gence assumptions underpin the simulation scenarios used by Cecchini to
derive their CS estimates.

Three simulation scenarios were used by the researchers, corresponding
to the following convergence price (LRLP) assumptions:

> 'Bilaterial Integration' uses Cecchini's original convergence price
> (i.e. Cecchini's LRLP) for each financial product. This means simply
> that the EFTA financial product prices do not affect Cecchini's orig-
> inal LRLP, even where respective EFTA prices might be lower (and
> might, therefore, reduce) Cecchini's original LRLP.

> 'EEA Integration' uses the average of four lowest prices for each
> product derived from the EC and EFTA datasets combined (i.e. a 14-
> country dataset comprising the EC-8 and EFTA-6 countries). Unlike

in the 'Bilateral Integration' scenario, EFTA prices (if they are lower than the respective EC-8 prices) may now reduce correspondingly the original Cecchini LRLP (and, therefore, inflate the corresponding CS gains).

'EFTA Integration' uses a corresponding convergence price (LRLP) for the EFTA coun*try data alone.*

These three scenarios correspond to what the researchers hypothesised to be three broad economic alternatives facing the EC and EFTA on financial sector integration.

Bilateral Integration assumes that the EFTA countries remain outside the EC, EFTA financial sectors are fragmented within EFTA, but each EFTA financial sector becomes integrated (for example, with a strong co-operation agreement) bilaterally with the EC bloc. This simulation scenario is also dictated by a need to be as comparable as possible with the original Cecchini results.[9] The original Cecchini convergence price is used, and no assumed gains for the EC-8 are posited from this assumed, 'additional' EFTA integration process. Within the EEA Integration scenario, on the other hand, EFTA countries' financial sectors are assumed globalised, or fully integrated, within the EC. This scenario explores the possible CS gains for the EC-8 as well as EFTA from this kind of globalisation process.[10] Under EFTA Integration, on the other hand, EFTA remains outside the EC, EFTA and EC financial sectors are fragmented bilaterally, but the EFTA financial services sectors become fully integrated within EFTA.

Tables 1 and 2 summarise the results.[11] In Table 1, EC Integration reproduces the original Cecchini results, and the corresponding EEA Integration data are the re-computed Cecchini results under the EEA Integration scenario. Table 2 presents the EFTA results under all three scenarios. The rather obvious, a priori conclusions from these preceding results is that the gain in CS from a Cecchini-type microeconomic perspective is *ceteris paribus* highly significant for all of the EFTA countries. These results also suggest that there are significant additional gains for the EC-8 and EFTA within the EEA Integration scenario.

Under Bilateral Integration, the estimated gains (as a percentage of GDP) for Austria (1.6 per cent) and Switzerland (2.3 per cent) are considerably higher than for the top two EC-8 countries, Spain (1.5 per cent) and Luxembourg (1.2 per cent), under EC Integration, Cecchini's original simulation scenario. The EFTA range is also considerably wider (at 1.7 per cent) compared with the EC-8 (at 1.3 per cent); the EFTA mean gain is 1.1 per cent compared with the EC-8 mean of 0.7 per cent. Within all three scenario results it is interesting to note the high results for the Alpine-EFTA (Austria

and Switzerland) compared with the Nordic-EFTA (Finland, Iceland, Norway and Sweden). The Table 1 and 2 results suggest that the most attractive scenario for EFTA and the EC-8 is EEA Integration, followed by Bilateral Integration with EFTA Integration a poor third.

TABLE 1
ESTIMATED GAINS RESULTING FROM THE INDICATIVE PRICE REDUCTIONS
FOR FINANCIAL SECTORS

Country	Average indicative price reductions	Direct impact on value-added for financial sector		Gains in CS as a result of average indicative price reductions	
	%	MN ECU	% of GDP	MN ECU	% of GDP
EC Integration					
B	11	656	0,6	685	0,7
D	10	4442	0,5	4619	0,6
E	21	2925	1,4	3189	1,5
F	12	3513	0,5	3683	0,5
I	14	3780	0,7	3996	0,7
L	8	43	1,2	44	1,2
NL	4	341	0,2	344	0,2
UK	7	4917	0,9	5051	0,9
EC-8[1]	11[2]	20617[3]	0,7[3]	21614[3]	0,7[3]
EEA Integration					
B	20	1213	1,0	1319	1,1
D	22	9842	1,1	10785	1,2
E	26	3609	1,7	4024	1,9
F	23	6604	0,9	7250	1,0
I	25	6752	1,1	7497	1,2
L	18	94	1,6	101	1,8
NL	14	1170	0,7	1236	0,7
UK	15	10784	1,9	11467	2,0
EC-8[4]	20[2]	40068[3]	1,2[3]	43678[3]	1,3[3]

Source: Commission of the European Communities (1988a, Table 5.1.5, p. 92) and simulated EC-8 EEA results [Gardener and Teppett, 1990a and 1992].

Notes

1. Price Aaterhouse EC-8 results.
2. Equals the average EC-8 indicative price reduction for these scenarios.
3. Global total.
4. EEA Integration EC-8 results.

TABLE 2
ESTIMATED GAINS RESULTING FROM THE INDICATIVE PRICE REDUCTIONS
FOR FINANCIAL SECTORS

Country	Average indicative price reductions	Direct impact on value-added for financial sector		Gains in CS as a result of average indicative price reductions	
	%	MN ECU	% of GDP	MN ECU	% of GDP
Bilateral Integration					
A	25	1383	1,4	1539	1,6
Fin	18	433	0,6	465	0,6
Ice	12	21	0,6	22	0,6
N	18	434	0,6	467	0,7
Swe	20	991	0,7	1077	0,8
Swi	23	2945	2,1	3244	2,3
EC-8 + EFTA[1]	16[2]	31552[3]	0,8[3]	33582[3]	0,9[3]
EEA Integration					
EEA Integration					
A	30	1629	1,9	1852	1,9
Fin	20	482	0,7	523	0,7
Ice	14	24	0,6	25	0,7
N	25	605	0,9	671	1,0
Swe	26	12771	1,0	1426	1,1
Swi	28	3500	2,5	3935	2,8
EC-8 + EFTA[1]	22[2]	46898[3]	1,2[3]	51433[3]	1,3[3]
EFTA Integration					
A	21	1169	1,2	1277	1,3
Fin	14	332	0,5	351	0,5
Ice	8	14	0,4	15	0,4
N	19	457	0,7	493	0,7
Swe	16	769	0,6	820	0,6
Swi	18	2318	1,7	2497	1,8
EC-8 + EFTA[1]	16[2]	5061[3]	1,0[3]	5453[3]	1,1[3]

Source: Gardener and Teppett [1990a and 1992].

Notes

1. Summarised results for the 14 country data set (Bilateral and EEA Integration) and for EFTA Integration (6 EFTA countries only).
2. The global average price reduction.
3. Global total.

LIMITATIONS AND CRITIQUE

These kinds of results, however, need to be interpreted with great care. In this general respect, the Cecchini microeconomic approach has already received considerable criticism: see, for example, Centre for Business Strategy [1989], Dixon [1991] Gardener [1991] and Gardener and Teppett [1990a, 1992]. CS gains themselves are not unambiguous in a welfare sense - see, for example, Londero [1987: Ch.2] – but Cecchini did not to address this issue in any detail. Many 'technical assumptions' were also made by Cecchini and the researchers replicated these for purposes of comparability. They included many 'heroic' assumptions within the CS simulation exercise. For example, a common elasticity of demand (e), from an empirical US study on insurance products by Babbel [1985], was employed by Cecchini for all 16 EC financial products (banking, insurance and securities) within the exercise.

Other 'heroic' assumptions were used in weighting individual financial product price changes (falls) and sub-sectors in the estimates of CS gains. Within this part of the exercise, for example, Cecchini used the same weights (based on the respective UK weights) for insurance and securities products in each of the EC-8 countries, although more detailed product weights (reflecting the comparative economic importance of each product) were derived for the banking sector products.[12] In the weighting of the aggregated, simulated price falls for each of the three sub-sectors (banking, insurance and securities), Cecchini weighted the banking and insurance sub-sectors by their respective 'value added', but the methodology used in the securities sector weighting remains unclear.[13] These weighting assumptions (with respect to products and sectors) were found to be important in computing the reported results.[14]

These same kinds of assumptions were again made in converting Cecchini's 'theoretical potential price reductions' (computed via the equation (2) model summarised earlier) into 'indicative price reductions' [Commission of the European Communities, 1988: Table 5.1.4]. It is the centre of range estimates of the latter that are employed in the Cecchini CS estimates. In the conversion from 'theoretical' to 'indicative', Cecchini generally used a simple rule: the 'theoretical' price falls were generally halved. This assumed 'halving' rule is not explained or rigorously supported, but was an apparent, further recognition by Cecchini of the fact that price convergence would not be total due to the continued existence of various non-tariff barriers.

A general and fundamental critique of the Cecchini approach is its apparent, marked upward bias within the CS estimations.[15] The Cecchini LRLP price-convergence assumptions apparently have no rigorous theoretical or empirical foundation in an EC context and applied to financial services. Cecchini also ignored (in the CS gains computations) the possibility of price

rises for some financial products following deregulation, although these may often be likely, e.g. if some form of credit rationing existed prior to the deregulation.

Comparability of prices was a particular problem for the researchers, and Cecchini [Commission of the European Communities, 1988:89] was certainly aware of these practical difficulties. Quoted (or explicit) prices, for example, may not always be appropriate in costing financial services, since fees, commissions and discounts may be applied concurrently. Joint products and customer relationship aspects of pricing give rise to similar difficulties. Financial products and services have different characteristics in different countries, and these characteristics often change significantly over time. A major problem with our results and that of Cecchini, then, is that they are based on often, highly variable (subject to different interpretation) data. The researchers' problems in this respect were compounded *inter alia* by the fact that our survey year (1987) by definition had become more 'historical' than it was in the original Cecchini exercise.

Cecchini has been criticised for ignoring producer surplus losses in the final gain estimates. However, the Cecchini research group did compute the reductions in producers' supernormal profits and found them to be relatively low under Cournot–Nash assumptions (equations [3]-[6]): see Price Waterhouse Management Consultants (Dublin) [1988:289]. We also found that, under all three simulation scenarios, these same kinds of FSF profit reductions for the EFTA-6 were generally in the range 2.0 – 6.1 per cent of the respective CS estimates; excluding Finland, the corresponding range was 2.0 – 3.3 per cent. One may also note that these profit erosion estimates were significantly lower for the Alpine-EFTA compared with the Nordic-EFTA. The empirical appropriateness of the Cournot–Nash model to financial services sectors, however, remains very much an open question for the Case 2 scenario.

The Cecchini microeconomic approach assumed that scale economies would be realised, but the scale economy argument in financial services is far from decided: see Gardener and Molyneux [1993: 28–41]. Intertemporal issues and questions about the assumed adjustment paths by FSFs towards the assumed, post-1992 scenarios were also largely ignored. The practical ability of low-cost producers to carry lower comparative costs into new markets, for example, was not considered in detail: firm size and productive limitations (like those imposed by capital adequacy) are two possible constraints in this respect. FSFs are also likely to price as near as possible to the higher price levels (and not the assumed Cecchini LRLPs) in other markets (depending on effective market segmentation and corresponding demand elasticities), at least for a time. Related questions concern the contestability of different financial services markets and the 'hidden barriers' to competition in financial services

(like reputation and nationality) that are likely to remain well after 1992.

A basic assumption of a Cecchini-type exercise is that the integration process will increase competition and oligopolies will be weakened. Over the medium to longer-term, however, 'internal' (within countries) oligopolies might well be replaced by pan-European oligopolies. As 'financial muscle' becomes progressively more important in certain market niches, it could well emerge that a small number of very big financial institutions will dominate such niches and enjoy, in effect, a supernormal mark-up. In reality, however, the kind of cross-border mergers, acquisitions and other forms of alliances envisaged (at least implicitly) by Cecchini have not yet materialised. Most of this kind of activity to date has taken place within individual countries' financial services sectors, although this may well be the prelude to the general kind of scenario postulated by Cecchini.

CONCLUDING REMARKS

The Cecchini microeconomic gains from completing the internal market were hypothesised to result from the elimination of barriers to trade and the increased stimulus to competition. They include cost reductions, increased efficiency in financial sectors, and a higher rate of financial innovation. These, in their turn, are predicted to have resultant, positive influences on important macroeconomic variables. Under the assumptions and methodology used by Cecchini, EFTA gains from financial sector integration appear to be extremely favourable. That is undoubtedly what many financial sector economists would expect, and appears to support those moves towards greater co-operation and integration between EFTA and the EC.

However, this detailed replication exercise has further exposed some of the critical and limiting assumptions employed within a Cecchini-type simulation. Although the important Cecchini research was subject to a tight time deadline and only had access to limited data, the fact remains that the economic gain (CS) estimates are highly suspect; they can only be indicative at best and are practically irrelevant at worst. A case might be argued that the Cecchini approach could be justified in several of its assumptions about price and output changes (and the secondary effects of deregulating financial services sectors), but these remain empirical questions that have not been resolved. Alongside these major problems in the estimation of Cecchini- type CS gains, their economic interpretation in this context is itself far from clear: see, for example, Londero [1987].

Together with these strong, cautionary notes on the practical significance of the Cecchini-type estimates,[16] this exercise has also highlighted a general lack of rigorous theoretical explanation and empirical evidence of the economics of deregulating financial services sectors. Concurrent with this gap is

a similar lack of understanding, theoretical and empirical, of the economics of simultaneous structural deregulation[4] and supervision (and investor protection and conduct of business rules) *re*-regulation of financial services sectors. European and many other financial services sectors around the world are currently subject to these 'twin' regulatory pressures. One of the most significant messages from the Cecchini study, then, is to remind us forcefully of the need to close these gaps in our understanding about one of the most important economic sectors within Europe.

NOTES

1. This research was undertaken at the Institute of European Finance (IEF) at Bangor (Gwynedd, UK) and sponsored by EFTA in Geneva. The views expressed in this note are those of the authors.

2. The EC-8 studied by Cecchini comprise Belgium (B), Germany (D), Spain (E), France (F), Italy (I), Luxembourg (L), Netherlands (NL) and United Kingdom (UK). The researchers surveyed the six EFTA countries, the EFTA-6, comprising Austria (A), Finland (Fin), Iceland (Ice), Norway (N), Sweden (Swe), and Switzerland (Swi). Within the EFTA-6, the Alpine-EFTA countries comprise Austria and Switzerland, and the Nordic-EFTA are Finland, Iceland, Norway and Sweden.

3. The selected financial products were hypothesised as being 'broadly representative' of each of the three sub-sectors, although this representation was never specified exactly or analytically. A detailed series of case studies on the financial sectors of each of the EC-8 countries studied by Cecchini preceded this selection process.

4. The primary focus of the Cecchini research was on structural *deregulation*, the freeing up of financial markets and FSFs to compete more freely. Comparatively little attention was directed towards the concomitant regulatory trend in European (and elsewhere) financial sectors of supervisory *re-regulation*: see Gardener in Norton (ed.), 1991, p. 104.

5. Producer surplus loss may be simply viewed as the area to the left of the corresponding sup ply curve in the range spanned by P_1P_2 and X_1X_2 in Figure 1: see Commission of the European Communities [1988:35].

6. One reason they are significant is, of course, their potential (negative) bearing on the resul tant 'resiliency' or 'inherent financial strength' of some FSFs. However, although output may be postulated to be higher under perfect competition compared with oligopoly (at least in the shorter term), it could be hypothesised that super-normal profits under oligopoly might lead to technical progress; over the long term, this could lead to higher output. The point in producing these hypotheses (which are unsubstantiated in this article) is to suggest that it might conceivably be argued that perfect competition is not necessarily the most desirable model in producing some kinds of financial services even from the consumer's point of view. A related question concerns whether financial services (or some sectors of the financial services industry) have a tendency towards 'natural concentration' in a relatively small number of producers. However, these 'devil's advocate' hypotheses detract from the philosophy and assumptions of Cecchini, and they are not taken up in this article. We note them merely as a reminder that the basic paridigm underlying Cecchini (the inherent, economic desirability of the perfect competition model) may require some modification, and certainly further research, in the case of financial services.

7. Price Waterhouse [1988:289] emphasised the methodological difficulties, including the Herfindahl (concentration) estimates, associated with computing producer surplus losses within this kind of exercise. This is the reason why they exclude producer surplus estimates from the main body of their report to Cecchini. In fact, Price Waterhouse estimated the reductions in super-normal profits summarised in equation 6 within this article. However, both

Price Waterhouse and Cecchini appear to de-emphasise strongly this side of their microeco-
nomic analysis of financial services. The exact modelling assumptions underpinning this part
of the Cecchini exercise were not altogether clear to the researchers, although it was possi-
ble to at least replicate the kind of tentative, unpublished results produced by Price
Waterhouse.

8. This LRLP 'model' assumes, then, that e is approaching infinity for each financial product
    in four countries (so that the respective price equates to marginal cost), or that industrial
    structure is different in these four countries so that the oligopoly price for each financial
    product in these four countries is 'almost equal' to marginal cost.

9. Another argument supporting this kind of simulation exercise might be that each EFTA
    financial sector viewed alone is not large enough to affect the overall EC convergence price.

10. Under this scenario, then, globalised EFTA financial services sectors may as a bloc be big
    enough to operate on Cecchini's original (EC-8 only) convergence price and corresponding-
    ly inflate the respective CS gains.

11. See Gardener and Teppett [1992] for a more detailed summary of these exercises.

12. In this part of the exercise, the researchers used Cecchini's German banking product weights
    for Austria and Switzerland (the Alpine-EFTA) and Norway banking product weights (from
    an earlier, similar study that replicated the Cecchini microeconomic methodology on
    Norway's financial sector: see Gardener and Teppett [1990b]) for the Nordic-EFTA coun-
    tries.

13. In this kind of situation, the researchers simply replicated or approximated the original
    Cecchini estimates (weights) on the respective EFTA data within the simulation.

14. That is, they were critical variables within our sensitivity tests on the CS results.

15. This approach also assumes, of course, that the 'desirability of perfect competition' model
    underpinning Cecchini is 'correct' (i.e. that consumers always gain from perfect or 'nearer
    perfect' competition in financial services): see also note 6 above.

16. The researchers [Gardener and Teppett, 1991] also conducted a postal survey of a sample of
    key European researchers associated with the SEM and the deregulation of financial services
    sectors. This survey sought *inter alia* additional expert views on the practical utility of the
    Cecchini microeconomic study applied to financial services. The general conclusion from
    the survey was that the Cecchini results were an 'interesting theoretical exercise', but of
    'limited practical value'

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