

Response to Prof. Cave and Prof. Valletti
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1. Telecom has asked me to respond to the statement that Prof. Cave and Prof. Valletti (CV) have submitted on behalf of Telstra-Clear. (TC)
2. CV recognize the potential importance of the concept of two-sided market for mobile competition. (¶ 9-11) However, they claim “mobile operators are [not] constrained by mobile subscribers when setting their termination rates.” They agree with my economic analysis in my first report, contrary to the situation claimed to hold in the CC Report, that decisions of one side, e.g. mobile subscribers, can affect the “well-being of the other group,” e.g. fixed line callers to mobile customers. However, CV do not consider the constraining effect of terminating mobile price on mobile subscription prices, and vice-versa. As I demonstrated in my initial report, profit maximization by model companies causes this constraint. Mobile companies will keep their subscription prices lower in an unregulated CPP system than otherwise, because they earn a margin (profit) on FTM calls. Similarly, the same profit maximization will cause mobile companies to set their mobile termination prices as a function of their mobile subscription prices, because the more subscribers they have the more profitable FTM calls they will carry. This two way interaction is described and analyzed in my first report.
3. While CV seem to realize the potential importance of this two way interaction (¶ 12), they make the completely unsupported claim that “regulation is warranted as unregulated mobile operators would choose the “wrong” structure of prices (monopoly termination rates above their efficient level and mobile subscription rates below their efficient level.). I have searched the entire CV report to find any consumer welfare function or social welfare function definition or analysis that supports their claim regarding termination rates above the efficient level and subscription rates below the efficient level. Absent such an analysis CV can have nothing to say regarding the “efficient” structure of prices relative to the explicit

objective function used by the CC: the Long Term Benefit of End Users. (LTBE)
Thus, the CV claim is an empty claim, devoid of economic substance.

4. To the contrary, I did an explicit welfare analysis in my first report. While I cannot claim to have solved for the absolutely efficient pricing structure, I did demonstrate, using the exact economic considerations that CV discuss as potentially important, that the current pricing structure is superior to the CC's proposed regulated TSLRIC pricing structure in terms of the LTBE. As I stated, I do not believe it is incumbent on competing carriers, VOD and Telecom, to prove that the current pricing structure is economically efficient. It should be sufficient to determine that the CC proposed policy decreases the LBTE of the calling parties whom make FTM calls considered alone. The CC policy thus will reduce consumer welfare.
5. CV claim that with "perfect competition" mobile operators should be indifferent about the level of termination rates. (§ 14 and fn. 12). First, you cannot have "perfect competition" in an industry with high fixed costs, such as the mobile industry. This point is sufficiently well recognized that using perfect competition as a criterion by CV is extremely surprising. However, it is also well known that under imperfect competition competing firms typically only earn a normal return. The CC Report did not demonstrate that either VOD or Telecom is earning a supra-normal return and investment, and I am unaware of any such evidence in this proceeding. However, even in this situation CV are incorrect to claim that mobile providers would be indifferent.
6. As I demonstrated in my first report, unregulated termination prices will lead to more subscribers and greater mobile penetration. Thus, unregulated termination prices will lead to greater profits for shareholders because the mobile network size will be larger. CV seem confused about the rate of return to investment (normal risk adjusted rates of return with competition) and the actual amount of profits.
7. CV attempt to use a "stylized situation" of a two-part tariff to demonstrate their claim of inefficiency. However, we do not observe a two-part tariff in real world situations. Economists know that it is always easy to assume a first best tax in theory that solves any problem without any economic distortion. However, in

- practice when we do not observe this situation in the real world, a good economic reason exists for its absence.¹
8. Further, CV agree that competition will cause decreased mobile subscription fees. However, when they claim that “all possible surplus from fixed users” will be extracted. (¶ 18) they are completely incorrect in this claim because they have failed to take account of the consumer surplus that fixed users gain from making FTM calls, as I discussed in my first report. Barring first degree price discrimination for FTM callers, which would be impossible to implement (and which CV do not claim could occur), FTM callers will receive increased consumer surplus the more mobile subscribers they are able to call. Again, the outcome of the CV stylized example may not lead to “economically efficient” prices that maximize some overall social welfare function, but CV have not demonstrated the regulated outcome in their stylized example would be superior to the competitive outcome. CV must be able to demonstrate an improvement in LTBE, and they do not even attempt the task.
 9. Economists have long known that simply pointing out a market failure is not sufficient to institute regulation. If it were, almost every sector of the economy would be regulated. At a minimum regulation must be demonstrated to cause a significant improvement since costs of regulation and information problems typically cause the benefits of regulation to be significantly less than calculated in a theoretical economic model.
 10. CV recognize the “waterbed effect” and state “If mobile operators kept termination profits for themselves, there would be no impact on retail rates.” (¶ 25). However, they do no economic analysis of this point and they fail to recognize that even a monopoly mobile provider would pass along a portion (at least 50% minimum) in terms of reduced subscription fees. This conclusion follows from profit maximization as I demonstrated in my initial submission.²

¹ My favorite example of this outcome is the first best “poll tax” which has been analyzed by economists since the 17th century as a first best non-distortionary method to raise government revenues. In the 1980s in the UK when the Thatcher government attempted to use a poll tax, it turned out to be a dismal failure and was soon withdrawn.

² Prof. Katz also came to the same conclusion in his Report. This conclusion is based on standard microeconomic theory. No special assumptions need to be made.

When CV concur with the CC that the termination rates should be set at TSLRIC they are implicitly assuming that mobiles providers act in an economically irrational manner. However, if they believe that all termination profits must be competed away they are wrong on two grounds: (1) termination profits must help pay for fixed and common costs, which CV earlier recognize exist and (2) even if only part of termination profits are competed away the LTBE can increase. In my first report for 2006 when 65% of termination profits are competed away, the LTBE is higher in the current situation than under TSLRIC prices. Thus, the correct answer is that at a minimum the majority of termination profits will be competed away and to determine whether this causes an increase in the LTBE of end users, an economic analysis must be conducted. CV do no such analysis.

11. CV consider the case of no “network externalities” and high penetration and claim that the waterbed effect is irrelevant. (§ 26) However, they mistakenly assume no effect on mobile penetration, which is incorrect. The demand for mobile penetration slopes downward, like all demand curves, and if the subscription price increases penetration will be lower than it would otherwise be in New Zealand. Indeed, in 2004 mobile penetration increased by 16.5%, which demonstrates that mobile subscription remains affected by subscription price.³ Since FTM callers gain consumer surplus from calling mobile subscriber who would otherwise not subscribe, the waterbed effect continues to be relevant. In Table 1A CV are only able to achieve their results by assuming that FTM callers do not gain consumers surplus from making calls to mobile subscribers who would not otherwise subscribe. This assumption must be incorrect or otherwise FTM callers would be spending their money on other goods and services in the economy.
12. CV Table 1b (§ 27) has the same problem. CV assume again that FTM callers do not gain consumer surplus from calling mobile subscriber who would otherwise not subscribe when subscription prices are higher. In my view in both Table 1a and Table 1b CV have “assumed their answer” by not taking into account this gain in consumer surplus to FTM callers. The market actions of FTM callers who through their “revealed preference” demonstrate they gain consumer surplus from

³ Source: Covec, “Modelling Regulation of Mobile Termination Rates,” November 2004, Table 2, p. 12.

- these calls directly contradict the CV assumption. No “externality” is present. FTM caller pay to make the calls to mobile subscriber and receive consumer surplus from the call just as in most transactions in the economy.
13. CV attempt to assume away this consumer surplus effect for FTM callers by speculating that the “network externality is probably very small at present.” (¶ 28) This claim is based on absolutely no data. To the contrary using actual New Zealand data I find that FTM minutes per subscriber has remained relatively the same: 317 minutes per subscriber in 2001 and 298 minutes per subscriber in 2004 even though the number of subscribers increased by nearly 1/3 (32%) with the largest increase in 2004.⁴ Since FTM callers to these new subscribers receive consumer surplus, it is incorrect to attempt assume away the effect as do CV. CV agree that above-cost termination charges could be beneficial if the behavior of “marginal mobile subscribers via lower subscription charges” is affected and “it is indeed possible to raise the equilibrium number of mobile subscribers.” Since demand curves slope downwards for mobile service both conditions are satisfied in New Zealand. No economist would assume that demand curves do not slope downwards and mobile penetration continues to increase in New Zealand and in most other countries.
14. CV note that mobile subscribers may also receive consumer surplus by being called. (¶ 30) I agree that this effect may be present and I take it into consideration in my first report. However, CV fail to note that a consumer must subscribe to mobile service to receive this consumer surplus. CV omit consideration of this effect. Since high termination fees lead to more mobile subscribers and more consumers surplus from receiving calls. CV’s conclusion that mobile operations

⁴ Source: Covec, “Modelling Regulation of Mobile Termination Rates,” November 2004, Table 2, p. 8. I note that the FTM price decreased by less than 10% over this period. Using the CC Report’s assumed elasticity the price effect on minutes is only 6%. Thus, by far most of the growth in FTM minutes is due to new mobile subscribers. I note that Telstra-Clear’s (TC) consultants also recognize the effect of increased mobile subscriptions on FTM minutes. See Marsden Jacob Assoc (MJA), “Review of the CBA Analysis of FTM Termination,” November 2004, p. 11-12. Thus, TC’s consultants seem to take opposite views regarding the important of mobile subscription to FTM demand. MJA come to similar conclusions to me regarding the importance of mobile subscription levels to FTM demand, which is more important than price. However, MJA never take account of the effect of reduced mobile subscription in their economic analysis because they assume incorrectly that the mobile operators will act in an economically irrational manner and will not increase subscription prices under regulation.

would “still charge too high termination rates” is incorrect. In their conclusion CV implicitly assume that the number of mobile subscriber is invariant to the mobile termination charge, which is incorrect. The CV conclusion “as both parties generally benefit from participating in a call, then both parties should split the cost of the call” is not based on any economic analysis. Economists do not base regulatory policy on a “just division” of consumer surplus. Economic analysis attempts to maximize the total consumer surplus across all consumers, unless explicit income distribution policy is considered. Only an LTBE calculation can determine whether the proposed regulatory policy is in the LTBE, not moralizing about what “should” happen.

15. CV recognize (¶ 15) that since fixed users benefit from increased mobile penetration, “a termination mark up above incremental cost would be justified” under given conditions. However, they attempt to claim that since mobile penetration is high in New Zealand no mark up is needed. However, they do not consider what would happen in New Zealand if the mobile subscription price increases by say 10%. Every economist believes that demand curves slope downwards and I would be quite surprised if CV disagree. My own and many others econometric estimates of the subscription elasticity is around -0.5 . So a 10% price increase would decrease penetration by about 5%. CV seem to be confusing the situation with fixed line subscription where the estimated econometric elasticities are near zero, usual around -0.03 or less.⁵ I have never heard a serious claim that mobile subscription decisions are not affected by the prices charged to a significant degree. Thus CV’s rejection of Case 8 in Table 2 is based on no economic analysis and is incorrect because: (1) a waterbed effect exists by profit maximization by mobile operators as demonstrated in my first report (2) FTM callers do gain consumers surplus from making calls or otherwise they would not spend their money and (3) mobile penetration will be lower if mobile subscription prices increase because demand curves slope downwards.

⁵ See e.g. J. Hausman, "Taxation By Telecommunications Regulation," *Tax Policy and the Economy*, 12, 1998 and “Mobile Telephone,” in M. Cave et. al. eds, *Handbook of Telecommunications Economics*, North Holland, 2002. I am unaware of serious academic disagreement about the relative size of these demand elasticities. Since mobile penetration increased by 16.5% in 2004 while landline penetration did not change from its value of near 100%, the differences are quite evident.

These conclusions are completely standard from an economics viewpoint and cannot be assumed away by either the CC or by CV.

16. CV in their conclusion (¶ 34) do recognize that “externality between groups of consumers” must be taken into account. The three effects they mention that demonstrate that TSLRIC is incorrect regulatory policy all exist: a waterbed effect, consumer surplus from FTM calls (what CV call marginal network externalities) and an effect on mobile penetration. When CV claim that “low mobile take-up” must be present, they are attempting to go too far in their claims since all that is needed for TSLRIC policy to be incorrect is that mobile penetration is affected significantly. CV are incorrect that “a full waterbed effect” must be present. CV likely know that some of the markup will be passed on to mobile subscribers and if a sufficient amount is passed on the LTBE will increase.
17. I conclude that to analyze regulatory policy an empirical analysis must take place. You cannot assume your answer as CV attempt to do. I note that not a single elasticity estimate or a single estimate of pass through, either by mobile operators or by fixed operators, is present anywhere in the entire CV submission. Economists cannot make a judgment on regulatory policy without calculating the effect of the proposed policy, especially in the New Zealand situation where the CC expressly conditions its policy on the LTBE test. CV recognize many of the various factors that affect the LTBE (which they never explicitly consider) but they do not attempt to measure these factors to determine whether the proposed TSLRIC policy will increase or decrease the LTBE. Thus, their submission cannot form the basis of CC policy.