



NBN non- commercial services funding options

Response to the Consultation
Paper

May 2015

NBN non-commercial services funding options

This submission is made in response to the NBN non-commercial services funding options: consultation paper however it will not however seek to address directly the issues in the consultation paper but instead concentrate on the errors in the policy approach itself.

The submission is also being provided to the Regional Telecommunications Independent Review Committee because the subject of the consultation is directly relevant to the work of the Committee.

The submission has three sections:

1. The rationale for uniform pricing
2. The economic cost of inefficient entry
3. The real risk to NBN Co's business model isn't regional services

The overall thesis of the submission is that the policy of uniform pricing for NBN Co's services and the maintenance of NBN Co as a monopoly access provider are the most economically efficient way of delivering the services.

The paper first addresses why uniform pricing exists in some markets, including post and telecommunications. This section also details the sorry history of the previous Liberal government in this policy space.

The paper then outlines the economic inefficiency inherent in the underlying assumption of the need for an explicit cross subsidy for non-commercial services, that it can thus be charged on entrants in commercial areas and contested in non-commercial areas.

Finally the paper addresses the recommendations of the Vertigan committee and the fact that the Government response has deviated from the recommendations and fails to address NBN Co's real challenge.

In conclusion the paper argues that the entire exercise is a critical waste of scarce Departmental resources and a diversion of the newly created Bureau of Communications Research from the tasks it was established to perform.

The Rationale for Uniform Pricing

The Vertigan panel identified concern with the uniform price approach mandated on NBN Co through the Statement of Expectations, noting:

The panel believes a price capping approach should be retained but is mindful of the distortions uniform price requirements impose, including in terms of preventing the emergence of competition in regional areas (where prices are forced below costs) and encouraging potentially inefficient competition in metropolitan areas (where uniform prices might be above costs).

Additionally, evidence from the panel's cost-benefit analysis suggests demand for extremely high-speed broadband is relatively highly price elastic, which means price distortions impose significant welfare losses (as they induce some consumers to demand services they value at less than their costs, while discouraging other consumers from demanding services they value at more than their costs).

By disguising costs, uniform prices can also reduce the pressures on NBN Co to ensure their proper management.

As well as those disadvantages, the panel notes that uniform wholesale pricing of NBN Co's services may not result in uniform retail charges, which is a further reason for concluding that it is a poor way of pursuing the goal of service affordability.¹

The committee went on to suggest mechanisms for addressing these concerns (mechanisms that are not being followed by the Government's response) and these will be discussed later.

The issue is here whether the panel is right in its criticism of uniform wholesale pricing.

The first thing to observe is that the argument mounted is that uniform pricing distorts competition, not, as is usually argued, that uniform pricing requires a constraint on entry to be maintained to support uniform pricing.

At its simplest level the argument is simply wrong as a dynamic argument. Were NBN Co to charge a uniform wholesale price and exposed to competition, but able to choose not to serve a market, then NBN Co would simply continue to exit each market as it became competitive. At the end point it would either remain a single pricing provider for the most expensive services or have exited completely.

This analysis fails on the one feature of telecommunications networks usually forgotten in economic analysis, that the infrastructure investments once made are sunk. A free agent NBN Co able to set prices would respond to

¹ Vertigan 2014 P.20 (additional paragraph breaks added for readability)

actual competition by setting prices below the competitors costs and cross-subsidised from areas without competition. That this appears to be predation does not guarantee that under existing competition law it would be deemed to be so.

The second part of the panel's argument has no bearing on uniform pricing, since it is about the pricing relativities between line speeds. Firstly only the two lowest speed tiers are available on satellite and three on fixed wireless. Secondly the dynamic that is important here is between the prices of the tiers, not the prices in regions.

The presumption that competition makes this effective price discrimination more effective is false. The general theory of price discrimination is that it is behaviour that can only be engaged in by a firm with market power. The practical experience in Australia bears this out.

Telstra originally launched its DSL products with differential speed tiers as a way to capture more of the consumer surplus of the consumers who more genuinely valued the higher speed. Telstra's competitors didn't, arguing that the whole bandwidth should be available for each user and charging uniform prices.

The panel further argued that the cross-subsidies would enable NBN Co to "disguise costs" and hence reduce pressure on NBN Co for proper management. The reality is that because NBN Co's prices are regulated by the ACCC and because NBN Co is limited to long term cost recovery the costs are directly scrutinised.

Finally, the panel notes that uniform wholesale prices might not result in wholesale retail prices. This is an interesting and accurate observation of a possibility, but it is not born out as an outcome.

It certainly hasn't been the case with NBN pricing. Were it to be an issue with NBN pricing it would just as likely affect the fixed line customers connected to regional Points of Interconnection as it would satellite and fixed wireless.

It also wasn't born out in ADSL internet services where competitors to Telstra would usually charge the same retail price despite the different cost structures of customers connected through their own DSLAMs or those connected using a full wholesale product from Telstra.

So our first inquiry is: why despite the theory that a producer will price at cost are uniform prices so prevalent?

Postage stamp pricing

Charging all customers the same uniform prices, especially between disparate geographic regions, is often given the name "postage stamp pricing" after the most common implementation of these pricing regimes.

It is often assumed that the reason for such uniform pricing is a social equity proposition. This is not, however, the case.

Frédéric Bastiat was a French classical liberal theorist, political economist, and member of the French assembly. He was notable for developing the important economic concept of opportunity cost. His ideas have gone on to provide a foundational basis for libertarian thought.²

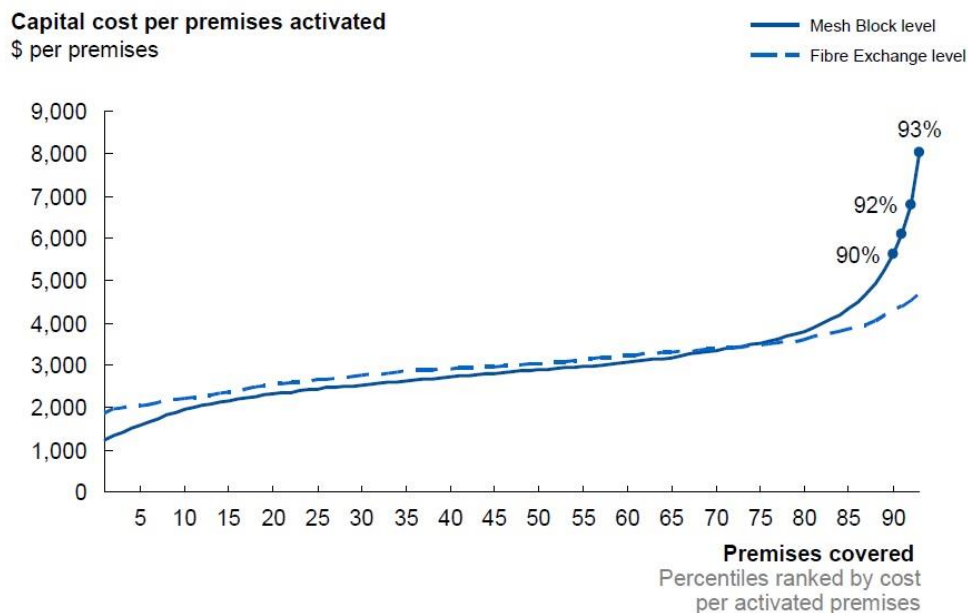
In *Economic Sophisms* Bastiat included a piece ‘Salt, the Postal Service, and the Tariff’³ Part of this is an exposition arguing for the adoption in France of the “penny post”. The dialogue between Jacques Bonhomme and John Bull on the price structures of the French and English post is very entertaining (and is included at Appendix 1).

The point ultimately is made that averaging prices makes sense because even though the cost for individual mail items vary on average a person sends some expensive ones and some cheap ones.

The great line is “: Does the government make you pay more for the gram of tobacco you buy on the rue de Clichy than for that sold you on the Quai d’Orsay?” That is the reality of most prices despite the economists theories.

Turning to the NBN it is instructive to revisit the analysis that led to the decision about where to build fibre and where not. The figure below appeared in the NBN Implementation Study.⁴

Exhibit 4–14. Fibre-to-the-premises cost curve (93 percent coverage)



SOURCE: Implementation Study

² For want of a better source this description has been largely taken from [Wikipedia](#).

³ First published in the *Journal des économistes* of May, 1846

⁴ NBN Implementation Study 2010

It reflects not only the fact the break point of 93% was based on the estimated point at which the cost per activated premise of fibre exceeded that of wireless, but also how variable the costs are across different geographies.

The chart also demonstrates how the degree of abstraction makes a difference, between averaging at an exchange or a lower level.

The nature of the challenge becomes even more extreme when the currently incurred cost to serve, as claimed by NBN Co, are used. NBN Co's 2015 half year results presentation⁵ claimed the cost per premise of each brownfields premise passed is \$4,316, of each greenfields premise is \$2,780 and of each fixed wireless is \$3,637.⁶

On these figures the Fixed Wireless and Greenfields services are cross-subsidising the Brownfields service. The Government would no doubt argue that future fixed line costs under the MTM deployment model will be lower.

That may be the case, but the point is still that the costs do vary for different services. NBN Co will be charging "average prices" somewhere. So the question isn't whether there should be price averaging, but at what level of abstraction.

The Liberals don't learn

When last in Government the Coalition made a complete hash of broadband policy.

They were dealt a particularly difficult hand when Sol Trujillo made his famous visit to the Prime Minister and the two shareholding Ministers to propose a Telstra broadband investment (FttN) in return for a regulatory concession.⁷

The immediate concession was not forthcoming, and nor was it ever going to be so. Telstra withdrew the proposal but continued discussion with the Government, and more importantly the ACCC.

Telstra eventually gave in, with a particularly petulant statement, after the ACCC wouldn't agree to changing the pricing of the Unbundled Local Loop to a national average rather than zone based prices.

Telstra's broadband competitors installed their own DSLAMs in exchanges with low ULL prices and bought Telstra wholesale service where they were

⁵ NBN Co Half Year Results Presentation 22 Feb 2015

⁶ These costs are, however, disputed as they fold the duct lease payments from forward operational expense into upfront capital. The tower costs are similarly treated and Greenfields includes costs for temporary FANs which will increasingly not be required.

⁷ Paul Fletcher's *Wired Brown Land* provides an entertaining and mostly accurate account of this period.

higher. Telstra had already run afoul of the regulator for trying to raise wholesale prices to reflect the distortionary buying practices.

That the Howard Government could have found a way forward on broadband if they had been prepared to take on the ACCC over price de-averaging isn't the greatest part of this story.

What is relevant is that it demonstrates the complete opposite of the Vertigan panel's fourth concern. In broadband pricing, providers have pursued uniform retail pricing in the face of varying wholesale costs.

A similar case followed in long distance telephone call pricing. A presumption prior to deregulation was that competition would result in cheaper calls on thick inter-city routes and dearer calls to regional centres.

Not only did this not occur, but the process of competition slowly eroded the price discrimination between any distance and peak and off-peak calling. Very clearly a person making a long distance call from somewhere in the outer reaches of the Mt Isa Call Collection Area to someone else in the outer reaches of the Mt Isa Call Collection Area (but not an adjoining zone) cost a telco a lot to deliver. The PSTN OTA charges were about 4 times those in the city and the cost to carry the call on trunks from and to the Mt Isa PoI to Brisbane. But the telco's charged the same retail price for the call as a call from Brisbane to the Gold Coast.

The explanation for the counter-intuitive outcome that competitive markets result in less "cost reflective pricing" rather than more is that it is the consequence of a dynamic market rather than a static one.⁸

If two providers have two price points for long distance telephony divided at a common distance parameter then either provider can marginally increase profitability by shifting the boundary for the cheaper option out a little. This winds up being true across all distances because of the large common costs involved. Consequently the end point is the elimination of retail price discrimination.

Summary on uniform price rationale

Some form of price averaging exists in all markets. Uniform pricing is common in competitive markets despite economic theory to the contrary.

The distortions imagined by the Vertigan panel are illusory, except in so far as they might relate to incentives to compete with NBN Co in metropolitan areas. That is the subject of the next section.

⁸ More simply it is slightly analogous to Hotelling's ice cream seller.

The Economic Cost of Inefficient Entry

In his submission to the Productivity Commission inquiry into Public Infrastructure, Vertigan panel member Henry Ergas wrote:

Infrastructure literally means ‘the structure beneath’. In its common usage, it refers to the complex of physical assets on which economic and social activity relies. Most of these assets – which go from ports, roads and railways through to power, water and telecommunications networks – have natural monopoly attributes, in the sense that a single system can handle all of demand at least cost.⁹

The fact that telecommunications networks have “natural monopoly attributes” has been frequently ignored, while it is less so in the case of electricity and gas reticulation. No one anywhere suggests duplication (competitive entry) of either of these assets.

However gas and electricity distribution networks both compete in the market for energy, just as twisted copper and hybrid fibre coax have for broadband. But that competition, just as in the energy case, occurs because each technology is better at something than the other – telephony and pay TV in telecommunications, heat and driving motors in the case of gas and electricity.

The networks are natural monopolies for their own services, but provide weak competition to each other while not being direct substitutes.

In the NBN case the FTTP deployment originally planned performed all telecommunications access tasks better than any previous technology. It is a natural monopoly infrastructure without weak substitutes.

The same is true of the satellite infrastructure in the most remote areas.

A slightly different conclusion can be reached about the fixed wireless infrastructure because it does face a weak substitute in mobile wireless. Wireless access provided on mobile platforms however does not guarantee the availability of line speed because it can be affected by the number of visiting devices.

With the benefit of hindsight the NBN architecture could have been designed with slightly more satellite and co-operative use of services from mobile operators. Since that hasn’t occurred the fixed wireless network is a natural monopoly as well.

The important distinction of natural monopoly is that it can be provided at lower cost by one operator than by more than one operator. As a consequence entry of a second operator occurs at a net cost to the

⁹ Henry Ergas 2014 Submission

http://www.pc.gov.au/data/assets/pdf_file/0005/132197/sub087-infrastructure.pdf

community. The process of this is different for each of the technologies. The cases of satellite and fixed line will be used here.

A threshold question that will also be addressed is what the incentive is for inefficient entry.

Inefficient entry in satellite

NBN Co will be launching two satellites to service some 3-4% of premises. Experience with the Interim Satellite Service has already revealed that forecasts of demand are likely to have been under-estimations. Therefore to be able to guarantee the committed service parameters NBN Co has already announced that capacity on the satellite will be managed and “caps” placed on individual services.

Let’s assume that NBN Co is still restricted to its original market, but that another operator has launched a satellite primarily serving big commercial users. That satellite winds up with spare capacity (either through over design or by a large user substituting their own fibre link along a rail corridor).

This satellite operator then has spare capacity to sell at marginal cost and with no limitations on the capacity it can offer.

Just as we have seen in the long distance market the correct market response by NBN Co is to release its capacity constraints. It is not hard to see that the endpoint of the entry is the capacity being over-committed.

Similar arguments arise if competition at geographic margins between a structurally separated NBN Co satellite and NBN Co fixed wireless business ensue.

Inefficient entry in fixed line

It should not be necessary in the homeland of the competing HFC networks to describe the economic inefficiency of two identical infrastructure deployments in the same geographic area. Billions of dollars were written off by Telstra and Optus as a result of the duplicated Pay TV roll-out just on twenty years ago.

Competition theorists seek to remedy this by introducing a concept of competition “for the market” rather than competition “in the market.” At its extreme this includes a model of geographic franchise tendering.

NBN policy under the current Government seems to be supporting this outcome, though by a combination of developer tendering for greenfield suppliers and a gold-rush mentality for other areas.

Let’s just analyse a very simple market in which there are ten geographic areas within which one is more expensive than average to cover, eight are all exactly on the average and one costs less than the average.

In the gold-rush model a competing provider will rush to build the low cost area. (Indeed, the areas identified by the Department as poorly served and hence should be NBN Co priority tend to be bigger footprint exchanges and hence are dearer to serve).

In a competitive tender model both NBN Co and a competitive provider should be expected to bid the same price. Given that costing is inexact and hence the tendered price will be the real cost plus an error variable that can be assumed to be normally distributed, NBN Co and the competitive provider would be equally likely to win it.

So in the case where the competitive provider is building the tenth, and cheapest area, the market outcome depends on the approach to NBN pricing.

If the price cap set by regulation for any provider is set to reflect the price of the average service, then NBN Co will make a loss on the nine areas it has to serve. The competitive provider has no incentive to price below the cap – as it has a monopoly on its area, so it makes a(n economic) profit on its services.

Because the competitive provider makes a profit it will increase its chances of winning the least cost areas by pricing below cost.

If the price cap set by regulation is revised upwards to avoid the problem of NBN Co making a loss, then the potential (economic) profit of the competitive provider increases thus allowing them to reduce their bid price even further.

This is the mechanism referred to as “cherry-picking.”

Summary on inefficient entry

The study on inefficient entry by satellite operators indicates that a rational investor would not normally invest in a satellite with the view to competing with NBN Co. However, where Government policy has been set to encourage competition rational investors often interpret that as an expectation that Government will support the competitive entrant, even when it is competing with an incumbent Government business.

In short, a policy to enable competition is likely to encourage inefficient entry even if that is not a rational investment.

There is no known mechanism using the price system to solve the cherry-picking problem in competition for the market in fixed line. The only, partial, solution is to not operate universal prices nor price caps but regulated cost based access prices for monopoly infrastructure. No competitive entrant then has a motivation to bid to enter and all that has been achieved is a more complex pricing arrangement.

The real risk to NBN Co's business model isn't regional services

The twin policy initiatives of encouraging competition in NBN services, be that between separated NBN Co entities or NBN Co and other entrants, and the elimination of universal wholesale prices need to be rejected.

However, were they to be pursued the higher priority for dealing with the issue is not how to finance NBN Co for the "non-commercial" services, but how to finance NBN Co for any service above average cost.

That this policy discussion is continuing for yet another iteration is frustrating in the extreme. The history of the fixed line USO should be enough for any policy adviser to steer well clear of this territory.

In 1988 in developing the initial telecommunications market reforms the then Government decided that it would aim to introduce network competition after it had determined the cost of providing the "loss making services."

That initial task was performed by the BCR's predecessor, the BTCE. However the BTCE calculation was not sufficiently robust for the initial claim which Telstra based on a commissioned model (the Bellcore model). The amount from that model was so extreme that eventually minister Alston just chose an acceptable number.

The cost has been assessed on a semi-arbitrary way since.

In an attempt to address the risk that the costing would over-compensate the loss making provider, Minister Alston also introduced a model for contestability of the USO areas.

No provider ever sought to contest the USO service provision. This was, in part, due to an excessive level of complexity introduced by the ACA into the process.¹⁰

Any exercise to make a transfer explicit ultimately requires a costing exercise that depends on assessments of future demand, and is therefore unreliable. The exercise being undertaken by the BCR is to cost a transfer between fixed line services and those delivered over satellite and wireless.

Yet even were this exercise to be, almost impossibly, completed faultlessly it still doesn't resolve the problems created for NBN Co by competitive entry and a price cap.

It is to be hoped that the BCR does not sacrifice its credibility as a source of credible economic advice by completing this exercise as if the outcome will

¹⁰ As an aside, Vertigan panel member Tony Shaw was the Chair of the ACA at this time.

be either reliable or useful. At the very least the report to Government should outline:

1. That the Government should follow the recommendation of the Vertigan panel and not introduce an explicit cross-subsidy unless NBN Co is first disaggregated;
2. That the Vertigan panel has erred in recommending the introduction of competition in any form into the supply of natural monopoly markets;
3. That any methodology for costing an explicit cross-subsidy will be flawed, and;
4. That NBN Co's greatest challenge from competitive entry will be cherry-picking in fixed line markets.

Extract from Salt, the Postal Service and the Tariff

Dialogue between JACQUES BONHOMME and JOHN BULL

JACQUES BONHOMME: Oh, who will deliver me from this whirlwind of reforms! My head is splitting. People seem to be inventing them every day: educational reform, financial reform, sanitary reform, parliamentary reform, electoral reform, commercial reform, social reform, and now here comes *postal* reform!

JOHN BULL: The last is so easy to carry out, and so useful, as we have discovered here, that I may venture to recommend it to you.

JACQUES: Still, they say that it turned out badly in England, and that it cost your Exchequer ten million.

JOHN: Which brought the public a hundred million.

JACQUES: Is that quite certain?

JOHN: Look at all the signs of public satisfaction. Observe how the whole nation, under the ministries of Peel and Russell, has given Mr. Rowland Hill, in British fashion, tangible evidence of its gratitude. Look at the poor, mailing their letters only after showing their sentiments by an imprint of a seal bearing the device: *The people grateful for postal reform*. Note the declaration made by the heads of the League on the floor of Parliament that without it they would have needed thirty years to complete their great work of freeing the food of the poor from all customs restrictions. Look at the statement made by the officials of the Board of Trade deploring the fact that the English monetary system does not lend itself to an even greater reduction in the postal rate on letters. What more proof do you need?

JACQUES: Yes, but the treasury?

JOHN: Are not the treasury and the public in the same boat?

JACQUES: Not exactly. And besides, is it quite certain that our postal system needs reforming?

JOHN: That is precisely the question. Let us take a look at the way things are done. What happens to letters that are put in the mail?

JACQUES: Oh, the whole mechanism is wonderfully simple. The postmaster opens the mailbox at a certain hour and takes out, let us assume, a hundred letters.

JOHN: And then?

JACQUES: Then he examines them one after another. With the aid of a geographic table and a scale, he assigns each to its appropriate category on the basis of both its destination and weight. There are only eleven zones and a like number of weight classifications.

JOHN: That makes a good one hundred and twenty-one combinations for each letter.

JACQUES: Yes, and we must double this number, for the letter may or may not be posted for *rural delivery*.

JOHN: This means, then, that the hundred letters will have to be scrutinized 24,200 times. Then what does the postmaster do?

JACQUES: He writes the weight in one corner and the amount of the postage due in the very middle of the address, in the form of a conventional symbol in use in the postal service.

JOHN: And then?

JACQUES: He postmarks them; he divides the letters into ten packets, according to the post offices to which they are to be sent; and he adds up the total postage for the ten packets.

JOHN: And then?

JACQUES: Next, he writes the ten sums down a column in one account book, and across the columns of another.

JOHN: And then?

JACQUES: Then he writes a letter to the postmaster at each of the ten points of destination in order to inform him of the accounting item that concerns him.

JOHN: Suppose the letters are prepaid?

JACQUES: Oh, then, I must admit, the service becomes a little complicated. The postmaster must receive the letter, weigh it and determine the distance it is to travel, as before, collect the postage due, and make change; choose from among thirty postmarks the one that applies; note on the letter its zone number, its weight, and the postage; transcribe the entire address first into one account book, then into a second, then into a third, then onto a separate slip; wrap the letter in the slip, send the whole well tied with string to the postmaster at the point of destination, and record each of these circumstances in a dozen columns of the fifty that line his ledger.

JOHN: And all that for just forty centimes!

JACQUES: Yes, on the average.

JOHN: I see that the *departure is* really rather simple. Let us see how things go on the *arrival* of the letter at its destination.

JACQUES: The postmaster opens the mailbag.

JOHN: And after that?

JACQUES: He examines the ten bills from the postmasters at the points of origin.

JOHN: And after that?

JACQUES: He compares the total indicated on each bill with the total he gets by adding up the amounts in each packet of letters.

JOHN: And after that?

JACQUES: He computes the grand total to determine how much in all he will hold the postmen responsible for.

JOHN: And after that?

JACQUES: After that, with the aid of a table of distances and a scale, he verifies and corrects the postage on each letter.

JOHN: And after that?

JACQUES: He writes in one account book after another, in one column after another, depending upon innumerable circumstances, the *overcharges* and the *undercharges*.

JOHN: And after that?

JACQUES: He enters into correspondence with the ten postmasters to call their attention to errors amounting to ten or twenty centimes.

JOHN: And after that?

JACQUES: He sorts all the letters he has received in order to give them to the postmen.

JOHN: And after that?

JACQUES: He computes the total postage that each postman is charged with.

JOHN: And after that?

JACQUES: The postman verifies the charges; he and the postmaster discuss the meaning of the symbols. The postman pays the sum in advance, and leaves.

JOHN: Go on.

JACQUES: The postman goes to the home of the addressee; he knocks at the door; a servant comes down and opens it. There are six letters for that address. The servant and the mailman add up the postage due, first independently, then together. They find it comes to two francs seventy centimes.

JOHN: Go on.

JACQUES: The servant goes to find his master; the latter proceeds to verify the symbols. He takes threes for twos, and nines for fours; he has doubts about the weights and the distances; in brief, the postman has to be summoned upstairs, and, while waiting for him, the master tries to guess who sent the letters, thinking it might be wise to refuse them.

JOHN: Go on.

JACQUES: The postman gets there and pleads the case for the postal administration. He and the master of the house discuss, examine, and weigh the letters, and calculate the distances; at last, the addressee accepts five letters and refuses to accept one.

JOHN: Go on.

JACQUES: Now the only question is that of payment. The servant runs to the grocer's to get small change. Finally, after twenty minutes, the postman is free to leave, and he runs downstairs to begin anew the same ritual from one door to the next.

JOHN: Go on.

JACQUES: He returns to the post office. He and the postmaster go over his figures twice. He returns the letters refused and gets a refund of the money he has advanced. He recounts the objections of the addressees in regard to weights and distances.

JOHN: Go on.

JACQUES: The postmaster looks for the account books, the ledgers, and the special forms needed to make his accounting of the *letters refused*.

JOHN: Go on, if you please.

JACQUES: Good heavens, I am not a postmaster. We might go on from here to the statements of the tenth, the twentieth, and the end of the month; to the methods devised, not only to set up, but also to audit, such detailed accounts for 50 million francs resulting from postal charges averaging 43 centimes and from 116 million letters, each one of which might belong to any of 242 categories.

JOHN: That certainly looks like, a rather complicated kind of simplicity. Surely the man who resolved this problem must have had a hundred times the genius of your M. Piron or of our Rowland Hill.

JACQUES: You seem to be laughing at our system; suppose you explain yours.

JOHN: In England, the government has arranged for the sale of envelopes and paper wrappers at a penny apiece, at all places it deems appropriate.

JACQUES: And after that?

JOHN: You write your letter, fold it in four, put it into one of these envelopes, and mail it.

JACQUES: And after that?

JOHN: And after that, there is nothing more to be said. That is all there is to it. There are no considerations of weight or distance, no *overcharges* or *undercharges*, no *letters refused*, no forms to fill out, no account books or ledgers or columns to total, no bookkeeping or auditing to be done, no change to give or receive, no symbols to interpret, no compulsion, etc., etc.

JACQUES: I must say that does appear simple. But is it not too simple? A child could understand it. It is reforms like this that stifle the genius of great administrators. For my part, I prefer the French method. And then, your *uniform postal rate* has the greatest of all defects. It is unjust.

JOHN: Why in the world do you say that?

JACQUES: Because it is unjust to make people pay as much for a letter carried to a neighbor as for one carried a hundred leagues away.

JOHN: In any case, you will admit that the extent of the injustice is limited to a penny.

JACQUES: What difference does that make? It is still an injustice.

JOHN: In fact, it is limited to just a halfpenny, for the other half goes to defray costs that are the same for all letters, regardless of the distance they are carried.

JACQUES: Penny or halfpenny, it is still unjust in principle.

JOHN: Finally, the injustice, which, *at most*, is only a halfpenny in a particular case, is completely wiped out in the total correspondence of each citizen, since everyone writes sometimes to distant points and at other times to points in the neighborhood.

JACQUES: I still do not accept it. The injustice may, if you like, be infinitely attenuated and mitigated; it may be imperceptible, infinitesimal, innocuous, but it exists.

JOHN: Does the government make you pay more for the gram of tobacco you buy on the rue de Clichy than for that sold you on the Quai d'Orsay?

JACQUES: What connection is there between the two objects being compared?

JOHN: The fact that, in one case as in the other, someone must pay the costs of transportation. It would be just; mathematically, if each pinch of tobacco cost a millionth of a centime more on the rue de Clichy than on the Quai d'Orsay.

JACQUES: True enough. After all, one should not demand the impossible.

JOHN: To say nothing of the fact that your postal system is just only in appearance. Two houses are situated side by side, but one is outside the zone and the other is inside. The first will have to pay ten centimes more than the second, which is as much as the entire cost of posting the letter in England. You can see quite readily that, in spite of appearances, injustice occurs in your country on a far greater scale.

JACQUES: That seems quite true. My objection is of no great importance, but there is still the revenue loss.

About DigEcon Research

Purpose

DigEcon Research undertakes policy research, the focus of which is the significance of the Digital Economy and the policy challenges it represents. The policy research encompasses both economic and social research.

Researching the significance of the Digital Economy

There is little shared meaning for the term “the Digital Economy.” Key definitional issues include:

- whether the Digital Economy is something yet to happen or in which we are now embedded;
- whether the Digital Economy refers to a specific subset of the economy or the whole economy; and
- whether the Digital Economy refers to anything substantially different from the simple development of the Industrial Economy.

DigEcon Research focuses on the analysis of the social and economic change related to the concept of a Digital Economy. Analysis of change should highlight those areas where there is genuine policy choice rather than merely a need to adapt policy to changes that have already occurred.

Before Thomas Kuhn popularised the idea of “paradigms” J.K.Galbraith railed against the “conventional wisdom”. There is no denying that what Kuhn called “normal science” (the repeated application of existing theory to new problems) results in most practical developments. It is equally true, however, that the application of existing theory to problems they were not designed for results in, at best, vacuous solutions and, at worst, wildly dangerous outcomes.

The work of DigEcon Research is premised on the observation that the Digital Economy challenges the fundamental concepts of neo-classical economics. It also challenges most of the principles on which societies are organised. In this context policy research needs to focus on what is different, not on what is the same. The Digital Economy is not just a matter of means of production but about the fundamental structures of social organisation.

Work program

This research is designed both to inform policy makers and to assist those who would seek to influence policy makers or to make business decisions. DigEcon Research however does not undertake policy advocacy on behalf of any party.

A key element of the research relates to the direct regulation of the converging industries of telecommunications, media, consumer electronics and information technology. However, the agenda encompasses the wider economic and social policy issues.