RTT TECHNOLOGY TOPIC
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Capital Transfer Networks

The application of collective economics to the telecoms industry

In 1844, twenty eight working men opened a general goods store in Rochdale, an event that marked the start of the international co operative movement.

The Cooperative movement was a collective response to the economic and social inequality created by the industrial revolution.

165 years later the principles of collective economics have extended from the retail sector to banking and insurance and cooperative businesses can be found in most countries.

Agricultural cooperatives in emerging countries are one example; organisations like the Grameen bank are another.

In 1844 Samuel Morse sent the first message over the first commercial telegraph system from Washington to Baltimore, an event that marked the start of the international telecommunications industry.

165 years later cellular phones have proved useful, sometimes indispensably useful in enabling micro financing and micro trading schemes in emerging economies.

However the companies behind telecommunication technologies and innovations including cellular phones are generally conventionally financed and have conventional shareholding structures.

In this months technology topic we argue that collective economics may have a broader role to play in the telecoms industry. In particular collective economics may have a broader role to play in financing future R and D.

Existing cooperative models in telecommunications - Knowledge Transfer Networks as an example

This is not to say that cooperative models do not exist in telecommunications.

Nokia built its success in the cellular industry in the 1990's on close cooperation with the Finnish education system and with local and international universities and research institutions.

In Europe, Japan and Asia and the USA, collaborative R and D programmes such as the Mobile VCE have been developed.

More recently in the UK, the Technology Strategy Board has invested substantial political capital though rather less financial capital in twenty four Knowledge Transfer

Networks, two of which, the Digital Communications Knowledge Transfer Network and Electronics Knowledge Transfer Network have direct relevance to the telecommunications community. The other twenty two cover other industry sectors that are considered to be strategic to the UK's future growth potential.

One could argue the merits and demerits of these nationally based initiatives but for those involved the impact has generally been positive. However the financial returns from knowledge networking are hard to measure and by definition this means this type of initiative will always be vulnerable to changing political objectives.

Additionally while any or all of the above models may have proved effective at delivering value from scarce resources they only indirectly address the more fundamental issues of the long term capitalisation and capital adequacy of individual companies and the long term capital needs of individual or collective R and D programmes.

Enforced cooperative models as an alternative

Mergers and acquisitions are of course a tried and trusted method of strengthening or at least consolidating corporate balance sheets and have been traditionally based on the assumption that market and technology synergies combined with cost saving opportunities will deliver improved profits which will translate into a higher stock price which in turn translates into an ability to borrow money on favourable terms.

The evident effectiveness of this strategy is however far from universal. Shot gun marriages, particularly shot gun marriages where either one or both partners are pregnant with debt, do not have a great history of success particularly if the partners are from diverse cultural backgrounds.

This is true of most if not all industries but particularly true for industries with a dependency on technology innovation.

In particular, stock market expectations of short term returns from these reorganisations usually result in the destruction of long term technology value.

However the principle of a strongly capitalized partner helping out a more weakly capitalized partner particularly when both partners have complementary market and technology interests is sound and sensible. It is the expectation of a short term return that prevents the model working in market conditions where risk is highly priced.

Venture capital as an alternative model

Venture capital provides an alternative financing mechanism and can be effective in market conditions where rapid demand led growth can be achieved. VC backed enterprises have suffered in the past from a lack of available skill at a competitive market value. It could be argued that present market conditions have at least increased the available skill base.

Venture funding however is designed by default to meet temporary short term capitalisation needs and is not an obvious source of longer term financial support.

Bank loans as an alternative model

Traditional banking could provide an alternative but the track record is hardly encouraging and lending large sums of money at low interest rates to businesses with long term capitalisation requirements is probably unsustainable even if some or most of the banks are fully or partially nationalised. The present focus on quantitative easing as a macro economic cure may help but no one seems quite sure. These are uncharted waters.

A reformed financial system - the Tobin Tax?
In practice there seems to be a growing recognition that present efforts to reform the banking system are only likely to solve half the problem and will only be effective if coupled with a parallel reform of the national and international financial system.

This is evidenced by rewewed interest in the Tobin Tax, first proposed by James Tobin in 1972 at Princeton University.

Tobin argued the case for taxing speculative gains on international currency transactions. The process partly involved making all transactions more expensive, to discourage short term trading, but also to develop a tax regime that could tax the difference between real gains in value and speculative gains in value and also of course taxing the difference between real loss of value and speculative loss of value.

Determining this difference is of course problematic but theoretically possible.

It is of course tempting to extend the principle to all financial transactions. The approach seems particularly attractive to companies who find themselves exposed to situations where share values can change by 30% or more within a day. An increase or decrease of this magnitude is equally destructive.

Share value volatility of this magnitude implies we have either completely lost the ability to place an accurate value on a business which implies an over harsh view of the competence of the accountancy profession or, more likely, are suffering from the effects of a market where speculative trades are not sufficiently discouraged.

Speculation for example could be reduced by making stamp duty payable on the sell side of financial trades rather than the current point of purchase arrangement. This might help provide a source of additional income which could be redirected into more collectively based financial instruments. It would certainly limit the degree to which hedge funds can go short, as the act of shorting would be capital intensive or rather, would require some capital rather than none as is currently the case.

The distribution of capital
This brings us back to the topic of collective economics and the possible relevance of collective economics to the funding needs of the telecoms industry.

The first fundamental question might be to ask whether the industry is under capitalised, adequately capitalised or over capitalised.

The answer to this is not necessarily obvious. Cellular networks for example are by nature cash generative which is just as well considering some of the spectral

obligations that have been incurred.

However it is not just the overall capitalisation of an industry that is important but the distribution of that capitalisation and related capital adequacy.

So for example it is interesting to compare the overall capitalisation ratios of operators with the capitalisation of hardware and infrastructure vendors and the capitalisation of component vendors.

These ratios are not static and change over time. Risk, the reverse transform of capital, moves up and down the value chain and can be influenced by relatively short term fluctuations in supply and demand.

For example in the late 1990,s there was fierce competition amongst infrastructure vendors for major infrastructure projects. One vendor, unsurprisingly not the strongest in terms of technology or experience, offered 300% financing - the network for free and twice as much again to help finance the loading of the network with new subscribers.

Unsurprisingly this business model proved to be unsustainable both in general and for the company concerned.

Similarly handset vendors and infrastructure vendors looked to their silicon suppliers to assume development risk and to provide capitalisation support.

One handset vendor for example owns the components in a cellular phone for less than an hour - the time it takes to move the components down the production line and into the warehouse.

This is standard and necessary practice and reflects the competitive pressures of a fast growth industry.

However problems occur when competition is artificially over stimulated at any point in the industry value chain and or industry growth slows or reverses.

In the telecoms industry, the combination of deregulation and an over aggressive spectral auction process had two largely unintended consequences.

The spectral auction process took over 100 billion dollars of capitalisation out of the industry.

Deregulation resulted in an over competitive market in service provision.

Unsurprisingly this business model has proved to be unsustainable but the lack of sustainability is perhaps less immediately obvious than you might expect.

This is because the capitalisation crisis has hit the component industry hardest. The effects of this are not immediately apparent within the industry in general. Cellular phones in the market today for example are the product of R and D investment made

two to three years ago.

However although the short term effects may seem relatively slight the longer term effects are potentially damaging.

Undercapitalisation of the component sector in the telecommunications industry will lead to a growing gap between user expectations and deliverable product and service quality.

This makes it increasingly hard for operators to realise value from existing and new spectral assets.

The silver lining - a change in regulatory thinking
But all is not lost - every cloud has several silver linings.

As we all know recession has a number of benefits, the roads are less crowded, we have more time to be nice to our neighbours.

Recession is at least having the effect of making regulators realise that radio spectrum is a liability rather than an asset and that having auction processes and regulatory processes that realise short term rather than long term value are self defeating.

So perhaps we can look forward to an era where governments develop policies that help support rather than destroy industrial efficiency.

Governments and telecom industry capitalisation
However some semiconductor vendors are also looking to governments to solve capitalisation needs.

Governments are not very good at this and previous interventions, the British motor car industry being an example, are not encouraging.

Capital Transfer Networks as one solution
This suggests that industry specific self help initiatives may have a role to play.

Given that many of us in the UK at least are now getting half a percent on cash in the bank, the time has to be right to reinvent industry bonds based on old fashioned but effective principles of collective common industry specific common interest.

In the UK this could be achieved by repurposing Knowledge Transfer Networks into Capital Transfer Networks. The Capital Transfer Networks would issue R and D investment bonds.

Only companies or individuals working or associated with a specific industry would be eligible to purchase these bonds.

The bonds would yield a dividend of let's say 5% and would have restrictions on short term redemption.

Some or all of the proceeds of the Tobin tax could be allocated to provide additional investor guarantees.

The bonds would be administered by an industry elected industry specific body rather than an unelected third party financial institution.

In 1844 the cooperative movement was conceived as a response to the social and economic inequalities introduced by the industrial revolution.

165 years later, the financial services revolution has created similar inequalities with a related risk that serious collateral damage will be inflicted on industries that are essential to our future economic prosperity.

Capital transfer networks could provide a mechanism for realigning social political and economic interests in a new economy where self interest and common interest became more closely coupled.

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