POLICIES AND STRATEGIES TO ENHANCE SOCIAL BENEFITS DUE TO PRIVATE REHABILITATION OF BUILDINGS

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INTRODUCTION

Rehabilitation extends the service life of buildings and, in doing so, reduces the replacement rate of the building stock below that which would be required otherwise to sustain a flow of building services. For example, in a recent paper (Johnstone, 2000) I estimate that past and current levels of rehabilitation of New Zealand housing stock have reduced the national annual costs to sustain dwelling services by as much as 30%. Current costs could decrease by a further 9% should additional cycles of rehabilitation extend the service life span of the housing stock from 140 years to 240 years. Social benefits due to undertaking rehabilitation include not only an increase in the consumer surplus, but also a reduction in pollution from manufacturing and construction processes, a reduction in waste from demolition, and a reduction in CO_2 contributions to the atmosphere from activities by the manufacturing and construction industry. This paper outlines a sample of policies and strategies to enable and encourage the undertaking of private rehabilitation.

POLICIES AND STRATEGIES

Buildings codes and the service life of structural systems

The durability of the structural system used by a building ultimately limits the service life of that building and hence the potential for undertaking additional cycles of rehabilitation. The New Zealand building code requires items that contribute to structural stability to have a service life of 50 years. This service life falls well short of the 140 year service life span of the housing stock. Prediction of the long run durability of building components based on accelerated aging is fraught with difficulties. The most reliable predictor of durability is a successful history of performance. Lightweight timber framing, concrete, brick and stone structural systems have already demonstrated an ability to match and exceed a service life of 140 years whereas recent structural systems such as galvanised steel framing and reconstituted wood-fibre sheeting have yet to do so. Building codes should set the service life of structural systems to be no less than that of the current service life span of the building stock otherwise current and future generations will inherit not only the burden of increased costs to sustain services but also increases in pollution, waste products, and CO_2 contributions to the atmosphere.

Tax on unproven structural systems

Innovative structural systems should be encouraged, but until these systems have proven their durability there is the ever-attendant risk of additional social costs in the future. A tax on unproven structural systems would underwrite this risk. Without such a tax, manufacturers of unproven structural systems avoid the costs of underwriting social risk and effectively receive a subsidy instead.

Charges levied on demolition

Most building do not realise their potential service life because it is financially advantageous for the private sector to demolish and replace a building when the value of a new development on a site less the costs of construction less the developer's normal profit exceeds the value of the

property in its existing use plus the costs to clear the site. Charges levied on the demolition of buildings would delay the timing of demolition and redevelopment thus extend the service life of buildings and, in the process, encourage recycling of demolition wastage to offset the costs of demolition.

Depreciation allowances based on periodic capital expenditure

In principle, economic depreciation rates of capital assets are based on customary usage and obsolescence in normal circumstances but, in practice, the rates for buildings do not necessarily reflect a true average service life. For example, the straight-line depreciation rate for New Zealand buildings with reinforced concrete framing, steel framing, or timber framing is 3%. Full depreciation occurs in the 33rd year of service life as opposed to the 90 year average service life of dwellings (Johnstone, 1994). Short-term increases or decreases in depreciation allowances for buildings are frequently used as a fiscal instrument to encourage or discourage investment in new buildings. Changes to current depreciation allowances can also encourage rehabilitation.

A renewal of the flow of services provided by buildings can be brought about not only by demolition and replacement but also by periodic cycles of rehabilitation which reverse the decline in the flow of services. Current depreciation allowances for buildings should therefore be revised to fully accommodate periodic capital expenditure. In New Zealand separate depreciation rates apply for buildings and the fit-out of buildings. A building includes the building envelope whereas a fit-out includes demountable and non load-bearing partitions and ancillary plant such as lifts and HVAC. Capital expenditure on fit-out components is subject to higher depreciation rates than that for a building. Because certain building envelopes need to be replaced a number of times over the service life of a building, capital expenditure on such replacement should be included under the category of building fit-out and be subject to a depreciation rate which reflects the service life of the component. The structural systems of buildings should then be subject to depreciation rates that better reflect the average service life of buildings than those rates currently adopted.

Lower depreciation rates are conventionally applied for longer-lived capital assets. Nonetheless, a differential depreciation rate for more durable building structures which is higher than that for less durable structures would provide an incentive to invest in more durable structures. The post-tax net revenue stream of new developments or redevelopments would be greater and any capitalisation effect would increase the value of the development. Complete depreciation of the building structure could occur long before expiry of the full service life of the building. In the long term the total annual tax revenue would be the same irrespective of the depreciation rate which is applied.

Depreciation rates could be set to be progressively greater with each successive rehabilitation cycle so as to encourage building owners to extend the life of existing buildings at the margin. Capital expenditure on structural upgrading to comply with earthquake codes could also be subject to a higher depreciation rate than that applied for the structure of the building. An exemption of General Service Tax (GST) or VAT on rehabilitation and structural upgrading would provide an additional incentive.

Tax on imputed rent

Depreciation allowances apply only when capital expenditure is incurred in the course of the production of gross income. Imputed rent of owner-occupied dwellings in New Zealand is not taxed and owner-occupiers cannot claim deductions of interest on mortgages and expenditure on repairs and maintenance. Owner-occupied dwellings in New Zealand formed over 23% of the total value of New Zealand's capital stock of buildings, infrastructure, plant, and equipment in 1989 (Philpott 1992) and a random survey of 400 New Zealand dwellings has established that deferred maintenance averaged NZ$3,200 per dwelling (Page et al. 1995), or almost three times the average costs of annual maintenance. The opportunity to apply depreciation allowance

incentives to undertake rehabilitation is thus not available for a significant proportion of the total building stock and incentives to better maintain the housing stock are needed. If imputed rent from dwellings were taxed, then the incentive to over-invest in housing at the margin would be removed (Bourassa & Hendershott, 1992) and depreciation allowance incentives to undertake rehabilitation would apply to the entire building stock.

Welfare grants and subsidies to undertake rehabilitation

Until recently, the lowest income groups in New Zealand have either rented state owned dwellings at subsidised rents, purchased state owned dwelling with subsidised loans, or purchased new housing with subsidised loans. The process of filtering down has been bypassed, but should take place in the future due to recent changes in governmental policies. Assistance to low income families could take the form of grants to undertake rehabilitation.

Homeowners with limited income are more likely to defer maintenance and not undertake rehabilitation. Home improvement loans could be made available to these low-income homeowners at subsidised interest rates. The elderly could benefit the most from home improvement loans. For many, their home represents their sole store of savings. Rather than allow these houses to sink into disrepair, a loss that is ultimately a national loss, reverse mortgages for the purposes of home improvements should be made readily available to the elderly at subsidised interest rates. Reverse mortgages also fulfil the role of superannuation.

A shift from tax on improvements to tax on land

Property taxes can take the form of a combination of taxes or a single tax on land, a tax on improvements (to land), charges for provision of utilities, and a per capita tax. A tax on improvements discourages rehabilitation as a subsequent reversal in the value of improvements is subject to an additional tax. Any capitalisation effect of a tax on improvements would reduce the value of improvements and thus tend to reduce investment in buildings. On the other hand, taxes on land are capitalised in land values and are therefore neutral with respect to investment decisions (Bourassa & Hendershott, 1992). A tax on land need not be 100% and nor should be otherwise the allocative efficiency role of the price of land would cease.

CONCLUSION

A combination of the above policies and strategies will enable and encourage rehabilitation of buildings. Implementation need not reduce the total tax revenue. However, the effectiveness, efficiency, and equity of each of the above strategies need to be carefully examined before implementation and local circumstances should not be overlooked.

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