

(SHREDECON EDITION)

HOME IMPROVEMENTS

*Peter E. Earl and Ti-Ching Peng (2011)**

1 INTRODUCTION

Home improvement activities tend to be seen by government statisticians as a form of production, not as part of leisure. However, a recurrent theme in ethnographic work on do-it-yourself (DIY) activities (for example, Shove *et al.*, 2007; Watson and Shove, 2008) is the satisfaction people get from self-expression arising from all the hard work that goes into upgrading their homes. The amount of time people spend on home improvement activities is difficult to determine because surveys of time use tend to include this area within, for example, ‘repairs and gardening’ (Lader *et al.*, 2006) or ‘core non-market work’ (Aguiar and Hurst, 2007). It is tempting to infer that declining hours spent by men in market-based work have, to some degree, been offset by increased time spent on home improvements, thus contributing to the sense of ‘harried leisure’ in modern society identified by Linder (1970). Impressions of women spending more time in home improvement activities would be difficult to confirm from US data, since the pattern is for sharply decreasing time in non-market work as women have increasingly taken paid work (Aguiar and Hurst, 2007, p. 976). What is clear, however, is that expenditure on repairs and home improvements represents a major growth area that, by 2002, was approaching \$200 billion annually in the US (Baker and Kaul, 2002), with the UK DIY industry worth over £20 billion annually by 2004 (Williams, 2008, p. 312). Associated with this has been the increasing dominance of the retailing of home improvement products by ‘big box’ warehousing chains such as Home Depot in North America, B&Q in the UK and Bunnings Warehouses in Australia (see Hernandez, 2003, for a case study of the changing face of DIY retailing in Canada). Although home improvement choices have been studied even in countries with low per-capita incomes, such as Vietnam (see Phe, 2002), big box DIY retailing may not suit such economies. For example, Home Depot’s 1998 attempt to

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expand into Chile was a dismal failure and the firm exited after three years (Bianchi and Arnold, 2004).

The economic significance of home improvement activities goes well beyond their opportunity costs in time for other leisure activities and their contribution to aggregate demand. Work that results in bigger homes and/or higher-quality accommodation also has significance in areas such as:

- *The measurement of rates of inflation*—rises in median house prices may to some degree reflect rising housing quality or house sizes brought about by home improvements (Leventis, 2007).
- *Greenhouse gas emissions*—the long-lived nature of residential properties and the small annual increment from the construction of new homes means that improvements in average energy efficiency largely depend on improvements to existing homes (Lane *et al.*, 2008).
- *The costs of ensuring the welfare of an ageing population*—regular investment is required to keep housing in good functional order and thereby increase the prospects for elderly people to avoid the need to move into care homes. Policies aimed at facilitating home improvements by the elderly may thus have major payoffs via reduced social welfare expenditure (Tinker, 1998; Saville-Smith *et al.*, 2008).
- *Homelessness*—gentrification of inner city areas may contribute to a growth in the number of homeless people by driving up property values in these areas, displacing those who relied on access to cheap, low-quality rental accommodation (see the study of this issue in Washington, DC, by Williams, 1996).

This focus of this chapter, however, is on the challenges that home improvement activities present to consumers, what drives their behaviour and how they make their choices about what improvements to make and how to get them done. It is probably helpful to begin by considering the range of meanings embraced by the term ‘home improvements’.

2. WHAT DO WE MEAN BY ‘HOME IMPROVEMENTS’?

This chapter takes a very broad view of the term ‘home improvements’. Table 1 is a taxonomy showing the range of activities it encompasses. Many of these activities are commonly referred to by the term ‘renovation’, but the latter can sometimes have a much narrower formal definition. For example,

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the Australian Bureau of Statistics (2002) defines renovations as including alterations and additions (taken to mean those changes to the structure or footprint of a property for which local authority planning consent is required) but excludes repairs and maintenance even though these excluded categories involve similar capabilities and types of inputs.

Table 1: Taxonomy of home improvement activities

<i>Type of activity</i>	<i>Examples</i>
Rehabilitation of derelict residence	Turning a ruined farmhouse in another country into a holiday home
Conversion of non-residential building to residence	Barn or warehouse conversion
Conversion of existing single residence to multiple residence, or vice versa	Apartment conversion Granny flat
Creating new living space within existing structure or changing functions of existing spaces	Loft conversion Conversion of integral garage into study, an additional bedroom or family room
Changing internal floor plan	'Knocking through' to make one room from two Adding an en-suite bathroom
Major structural additions	Extension to offer extra bedroom Patio or conservatory Carport or garage
Changes to built-in equipment and facilities	Kitchen or bathroom makeovers Remove open fire and install central heating system
Cosmetic changes	Interior redecoration Stucco rendering to exterior or other change of siding material
Repairs and maintenance	Fixing cracked walls or floors Rewiring Replacement of clay sewerage pipes by PVC pipes Replacement of rotting floors or joinery in dampness-prone areas Restumping a timber house

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3. MOTIVATIONS FOR UNDERTAKING HOME IMPROVEMENT ACTIVITIES

When attempting to understand what drives home improvements, an obvious economic starting-point is to contrast investment-related motives with ‘nest-building’ consumption-related activities, as in the work of Munro and Leather (2000), who emphasize the importance of the latter. However, these activities can be seen in a more fine-grained way as means to a larger variety of ends, some of which can be served simultaneously by a single project:

1. *Enhance the market value of the property or its potential rental yield.* A better set of characteristics may enable a property to command a higher price. However, making improvements purely to achieve an investment return requires that the person undertaking them has a different set of opportunity costs from buyers as regards alternatives to working on home improvements or incurring transaction costs of outsourcing work, and willingness to incur dislocation costs associated with the work. Improvements in market value may also arise indirectly via network externalities associated with conforming to the standards being set by neighbouring homes or prompting neighbours to improve their homes (Park, 2008). Such considerations have underpinned public policies aimed at raising the average quality of housing by promoting home improvement activities, for example via the provision of improvement grants. However, such policies are frequently confounded by the willingness of homeowners to continue to put up with properties that are in a poor state of repair unless they can use the policy measures to satisfy other motivations (Munro and Leather, 2000). Such behaviour may not merely reflect factors such as dislocation costs that policy makers had not brought into their calculations. They may also, according to Stewart (2003), reflect an environment in which house prices seem to rise even for homes in poor condition, leading homeowners to underestimate the additional value that improvements might generate.
2. *Increase the property’s marketability.* This is a variant on the previous point, focused on scope for increasing the probability of finding a buyer within a particular period if it is put on the market at a particular price (see Earl, 1995, pp. 274–6). Two distinct kinds of

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improvement may be necessary to achieve this, though both are related to the problems of bounded rationality faced by prospective buyers. To simplify the choice process, buyers may use non-trade-off checklist-based decision rules to draw up a shortlist of properties to inspect (Earl, 1986, ch. 7) in contrast to the picture offered by Lancaster's (1966) model of choice among rival characteristics bundles. A single failing could thus cause a property to be 'ruled out'. Improvements aimed at diffusing buyers' potential objections and encouraging them to take a serious look at the property may necessitate quite major investments, such as adding an en-suite bathroom to the master bedroom to ensure that a large 30-year-old house matches the list of features offered by much newer 'executive homes'. Much less costly are improvements that will help the property make a good 'first impression' if viewed on-site by the prospective buyer (Fortes and McCarthy, 2009).

3. *Enable the homeowner to meet new or existing lifestyle aspirations more cheaply than by selling up and buying an alternative property.* Table 2 gives some examples of how home improvements can help homeowners meet such goals. Moving may be a less cost-effective strategy either because of significant transaction costs or because available alternative properties that meet their requirements offer more than what they require in some respects and carry corresponding price premiums. Though some acts of home improvement are a consequence of changing domestic circumstances, such as having more children, that disturb an existing match between the household and the property, it would be a mistake to assume that the homebuyer achieves equilibrium at the time of purchasing a property. It is common for properties to be bought with an intention to embark on improvements after moving in because buyers could find nothing that was exactly what they wanted (Seek, 1983; Littlewood and Munro, 1997).
4. *Enable the homeowner to enjoy enhanced social standing*—that is, the improvements are a form of conspicuous consumption or a means of living up to expectations that society has evolved for how people in particular social roles should live.

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Table 2: Lifestyle-related home improvements

<i>Lifestyle Goal</i>	<i>Example of means to achieving goal</i>
Enhance comfort, security and health	Install new heating system or air conditioning Replace carpet with timber-style floor covering to reduce allergy problems Install/replace security doors and screens
Reduce environmental burden	Double-glazing Cavity wall insulation New shower heads and dual-flush toilets New light fittings
Improve ergonomic functionality	Replace step-up-and-in shower with walk-in shower Change kitchen layout and design of storage systems
Enhance aesthetic and tactile appeal	Modernize exterior by rendering brickwork or adding new siding material Change in colour scheme for décor Replace curtains with blinds Change from laminated to granite bench-tops
Maintain fit with changing family requirements	Add extension to accommodate growing family Remodel part of house into 'granny flat'

5. *Meet psychological goals via the process of achieving the improvement.* Scitovsky (1981), for example, includes renovation activities as a means towards satisfying a desire for excitement that arises where comfortable affluent lifestyles do not generate enough novel stimuli. In a related vein, Shove *et al.* (2007) report that, for example, kitchen upgrades can serve as an antidote to the alienation caused by the grinding routine of everyday life as they enable even council-house occupants to put their own stamp on their domestic environment. Likewise, Chaplin (1999) shows how the effort involving in upgrading a cheap holiday home in France is seen by some as a way to escape from the pressures and

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routine of life in Britain. In addition to being an antidote to boredom, home improvements also provide opportunities for people to test hypotheses about their capabilities or the possibility of turning their current residence into their dream home (Kelly, 1955; Earl, 1986; Watson and Shove, 2008).

It might be expected that heritage preservation is a motivating factor when owner-occupiers spend on improving listed buildings. However, Hills and Worthing (2006) found that owners of such buildings invested in maintaining them to avoid discomfort and costs of allowing further deterioration and to get the satisfaction that went with keeping them in 'good order', rather than for cultural reasons.

4. TO IMPROVE OR NOT?

The existence of wants or needs for home improvements does not guarantee that they will be undertaken, except in cases of emergency repairs such as dealing with burst pipes. This is largely an area of discretionary expenditure in which the assumptions of given tastes and rationality are not particularly apt. Although changing household needs often drive home improvements, Baker and Kaul (2002) also show the importance of recent experience, implying that consumers develop tastes for making improvements, while Bendimerad (2005) finds that age and generation (baby boomer, X, Y) both help explain differences in the propensity to make home improvements. Since older people and those who have been living in a property for a long time are less likely to be focused on making capital gains by moving on, they are generally less likely to do repair work, being less concerned with making capital gains (Littlewood and Munro, 1996). Neglect of properties may be associated with self-neglect (McDermott *et al.*, 2009), as where elderly people with pathological hoarding tendencies live in increasingly cluttered squalid conditions that make rooms very difficult to clear before work can begin.

Cognitive processes may also prevent consumers from seeing the need to make improvements that expert observers may see as rational. For example, Gram-Hanssen *et al.*'s (2007) study of responses to energy labels reveals that consumers often fail to make rational home improvement choices in response to them because they are prone to question expert knowledge rather than simply 'take it in'. In some cases, people with plenty of spare time, such as those in retirement, opt to allow their homes to suffer serious decay even though they would not find it financially challenging to address the problems and restore their quality of life. Rather than addressing

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the problems, they may simply deny their existence, or underestimate their scale, as with the case of many elderly New Zealanders in the study by Saville-Smith *et al.* (2008). They block information to avoid cognitive dissonance (see Akerlof and Dickens, 1982; Earl and Wicklund, 1999) if friends and family attempt to demonstrate the absurdity of the situation.

From the standpoint of psychological economics this is easy to understand. Although it might appear to a mainstream economist that a householder is irrationally delaying dealing 'merely' with, say, dysfunctional plumbing, loose tiles, rotting timber or flaking paintwork, the situation is actually one of high 'involvement' that has implications for the core of the householder's self (see Earl, 1986, Laaksonen, 1994):

- Consumers may suffer anxieties about their competence in DIY activities. Prior experiences are crucial here: as Watson and Shove (2008, p. 86) conclude, 'each project and each task of which each project is made is of consequence for the development of competence, skill or disillusionment, and so for the formulation, or otherwise, of new projects'.
- Anxiety may also be due to a lack of familiarity with relevant products and suppliers and perception that one lacks good decision rules for avoiding ending up dealing with 'cowboy' builders (see Holt and Edwards, 2005) (with knowledge getting more out of date the longer the work is postponed).
- Consumers may be concerned about how disruptive the work will be to established routines and about the trustworthiness of contractors.
- It may even be the case that some householders have phobias about interacting with tradespeople over the telephone to arrange for them to visit to give quotations, or feel concerned about how they will deal with tradespeople whose quotations they reject or whose work does not meet their expectations. Signs that there may be gender-based anxiety in this respect, due to male tradespeople treating men and women very differently as clients, might be inferred from the emergence of directories of female tradespeople.

In other words, self-confidence is a prerequisite for embarking on home improvements. Consistent with this, Peng (2009) found that although the likelihood of renovation was affected by fundamental factors such as the age of the property and household demographics, predictions were

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considerably improved by adding a psychological variable based on subjects' own ratings of themselves as renovators.

From the standpoint of conventional economics, deferral of home improvements has to be explained rather differently. One possibility is that it makes strategic sense: the initial empirical work by economists on renovation did not focus on its place in leisure choices but on choices made by owners of rental properties regarding whether or not to let them decay, thus saving renovation costs but reducing potential rental earnings (for example, see Arnott *et al.*, 1983; Spivack, 1991).

Somewhere between the anxiety-based and rational neglect perspectives on failures to make home improvements comes an interpretation via the work of Akerlof (1991) and O'Donoghue and Rabin (1999) on procrastination associated with time-inconsistent preferences. Such preferences may arise due to people discounting the future hyperbolically rather than exponentially and thereby giving undue weight to immediate costs (or benefits) versus longer-term benefits (or costs). People who behave as if they are discounting in this way will tend to postpone an action until tomorrow without realizing that when tomorrow comes they will delay the action yet again.

The likelihood of procrastination is increased by the fact that decay that necessitates repairs or replacement of the fabric, fixtures or fittings of a home is something that householders typically cannot address continuously. Some may try to keep their properties looking new by continually cleaning and polishing, but fixed costs and indivisibilities force even the more obsessively houseproud to tolerate the slide into entropy for significant periods. Redecorating a room, for example, involves fixed costs of acquiring materials and getting ready to deploy them without making a mess. Although some areas may be more prone to suffer from damage via the sun or from scuffing in everyday use, it is often necessary to repaint entire walls or the entire room in order to ensure that colours end up being consistent. The issue of consistency may also arise with fittings that come in sets whose parts wear out at different rates: for example, when one element in a set of matching bathroom fittings ceases to work properly or breaks, it may be impossible to buy a replacement on its own, not merely due to strategic behaviour by suppliers but because the service life of the products is long and the design in question is no longer in production.

Barriers to continuous upkeep of a home may mean, however, that the timing of restoration work is decided in ways that differ from what one would expect from conventional economics. If consistency in appearance is an issue for the householder but decay takes place at different rates in different areas, then restoration costs will be increased by the need to work both on the parts whose decay is a source of dissatisfaction and on other parts that, considered in isolation, would not need attention at the moment.

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The costs of maintaining consistency increase the costs of dealing with the immediate source of dissatisfaction and therefore will tend to delay remedial action. In the interim, members of the household may go through long periods of, for example, putting up with taps that initially can still be turned off fully with a big effort but eventually start to drip with increased rapidity no matter what one does. The eventual choice to put up with the situation no longer is likely to involve breaching a threshold of tolerance of some kind—a psychological discontinuity—rather than something in keeping with standard marginalist economic thinking. In other words, this seems an area that can be framed in terms of Simon’s (1955) ‘satisficing’ view of choice.

5. SHOPPING FOR IDEAS AND INPUTS

Even for those who do not engage in DIY at the stage of executing their renovation projects, considerable leisure time can be consumed working out which renovation projects should be embarked upon, designing the end result and shopping for inputs of goods and services. While mainstream economists would tend to presume that people have pre-existing preferences in characteristics space, the reality is probably that most people may only have strong renovation preferences in some limited sense (for example, a visceral sense of the ghastly when they see it).

Otherwise, their preferences are largely shaped socially or with the aid of what Earl and Potts (2004) call the ‘market for preferences’ in conjunction with the kind of ‘market institutions’ to which Hodgson (1988) has drawn attention. Watching renovation programmes on television, reading home renovation magazines and visits from design consultants are all means for the would-be renovators to size up what is possible and desirable from home. Similar roles can be played by trips to external market institutions such as bathroom centres, tiling and floor-covering stores and hardware supermarkets (often conveniently grouped as small ‘Marshallian business districts’) along with periodic ‘home-show’ exhibitions or visits to display homes in new housing developments.

There is certainly no shortage of inspiration via television: in a typical week, Halliday (2005) counted 16.5 hours of shows on terrestrial stations in the UK focusing on home improvements, particularly as a means of adding value to one’s property. Such programming may seem a contemporary craze but it actually began with the BBC screening programmes hosted by DIY expert Barry Bucknell (1912–2003) in the 1950s, many of which were aired live with all the hazards that this entailed. This was followed by a 39-episode series (*Bucknell’s House*) in 1962 in which he renovated an entire run-down property in Ealing, London. This series kick-started the modern DIY industry in the UK (Milmo, 2003): millions watched it and many viewers

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sought to emulate Bucknell's achievements. Bucknell's preferred style with its straight edges and lack of ornamentation, could be described as 'modernist', a preference that continues to be evident in current home makeover programmes despite consumers from differing social backgrounds having a much wider range of visions of how their dream home should look. By including ordinary consumers, these programmes are supposedly suggesting a democratizing of taste (something that DIY has also been argued to facilitate: see Atkinson, 2006). However, sociologists see them as preaching that modernism is the style that the masses should pursue (see the Bourdieu-inspired analysis by Philips, 2005, and Silva and Wright, 2009), while Halliday (2005, p. 73) sees them as denigrating feminine taste through their focus on functional, less-is-more design, not decoration and ornamentation.

The outsourcing of preferences can produce sharp divisions about what kinds of home improvements display good taste. In his book *Rubbish Theory*, Thompson (1979) draws on his own experiences in the renovation sector in London in the 1970s, and contrasts the behaviour of two groups with sharply differing world-views. One consists of upward-aspiring working-class renovators (whom he calls the 'Ron-and-Cliffs') who focus on trying to make their houses look newer than they are. The other group consists of members of *The Guardian*-reading chattering classes (whom he calls the 'Knockers-Through') who set out to gentrify properties by making them look more 'original' as they attempt also to make them suit better their functional requirements.

In seeking to undo what they see as the damage done by previous owners who had 'modernized' in a crass and tasteless manner, the Knockers-Through were keen to lay their hands on the panelled wooden doors and old fireplaces being discarded by the Ron-and-Cliffs as the latter install aluminium joinery and central heating. Much of this 'damage' was probably done a decade or so earlier by fans of Barry Bucknell. Gyrating preferences—which Thompson tries to model using graphical techniques from catastrophe theory—are similarly evident with bathroom surfaces: white tiles, basins and toilets were in the 1970s portrayed as fit only for institutional environments and were hence replaced by coloured tiles and ceramic bathroom suites, whereas nowadays clinical white is seen as classy.

The challenges that home improvement-related shopping presents are particularly evident when seen in terms of the search good, experience good and credence good distinction associated with the work of Nelson (1970) and Darby and Karni (1973). Because home improvements are specific to a particular residence and involve creating a system of related elements, it is often hard to be sure what the end result will look like before a financial commitment is made. To some extent, computers enable improvement choices to fall more readily into the 'search good' category: for example, the

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digital photography revolution has made it possible to see how a room will look in particular colour schemes simply by taking a photograph of it and then editing the colours on one's computer, while interior and exterior design consultants can provide 3-D simulations of new kitchens, patios and suchlike. Retailers can help to reduce risks by supplying test-pots of paint, providing classes for those who know their skills are limited, and offering no-quibble refunds for mistakenly purchased items that are returned in as-new condition (for example, fittings that turned out to look wrong or would not fit). Otherwise, though, this is the territory of experience goods, where the end result can only be judged after the work has been done, or credence goods, where customers may have residual doubts, even after the work has been completed, about what was actually done or whether work done because a tradesperson advised that it was necessary really was needed.

Concerns about quality will vary depending on whether the goal is to keep living in the property in the long term or whether the plan is to sell the property soon after home improvements have been done. If the latter is the plan, there is an incentive (moral compunction aside) to skimp on work that might make sense in the long run and to use quick-fix strategies and cheaper, less durable materials. This is an obvious place to apply the 'lemons' analysis proposed by Akerlof (1970): the buyer will find it difficult to judge whether, say, paint has been chosen for its long-lasting qualities in the absence of any evidence on this score. Likewise, even if a building inspection report is purchased, the buyer may still be left uncertain about what work has been done behind new surface finishes, since the inspector can only find out by removing these surfaces. Buyers will tend to presume the worst in cases where a property shows signs of having recently been spruced up and their guesses are likely to be right: such guesses mean that an investment in doing the job really well is unlikely to pay off via a correspondingly higher price (see further Iwata and Yamaga, 2007).

In the face of uncertainty and inexperience, the retailer's advice can be sought. If there is scope for finding out eventually whether the advice was worth having (that is, if the product is not inherently a credence good), then the retailer will have an incentive to ensure that staff provide appropriate advice in order not to jeopardize future sales of other renovation products to the customer. From the standpoint of Klein and Leffler's (1981) analysis of the economics of brands, we should not be surprised to find that hardware stores are increasingly likely to be members of large chains or franchise networks: not only does this give purchasing and advertising economies, it also increases the incentive of the chain to make sure its staff do not give misleading advice or other forms of poor service, for poor performance in one store may have repercussions across the wider network. (Network arrangements also permit leaner stock levels for each store in so far as a branch that is out of stock of a required item can 'helpfully' check

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with a near neighbour to see whether it is available there and, if it is, advise the customer how to get there.)

Where work is outsourced, institutional components of the markets in question may be predicted to guide choices: businesses that have been around for a long time and are members of relevant trade associations will tend to be favoured over those in the Yellow Pages that are not, while suppliers will seek to allay fears about the quality of the end product by proffering evidence of work done satisfactorily for previous customers. In a large city, many potential suppliers may be signalling their trustworthiness via institutional cues, so a considerable investment of leisure time is necessary if a thorough search for the best-looking deal is to be conducted. This seems likely to be the kind of situation in which search is truncated via the use of simple search rules such as ‘get three quotations and choose the cheapest’.

6. DIY VERSUS OUTSOURCING

Just as preferences for home improvements may be outsourced or personally developed, the actual work involved in turning visions into reality can be outsourced or achieved via DIY. For those who would rather use their leisure time in other activities and economize on transaction costs, there are firms that offer complete package deals that include the design stage and project management of all the tradespeople necessary to bring the project to fruition. It is also possible to employ mixed strategies, choosing to get contractors in for some tasks and doing others personally, while some employ informal outsourcing among their social networks (Adriaenssens and Hendrickx, 2009). In discussing how such choices are made, we proceed *as if* the nature of the home improvement has already been chosen, as per the structure of the chapter so far. However, it should be noted that in some cases, it is actually the desire to engage in DIY and possession of particular DIY tools and skills that shapes the choice of which home improvements to make, rather than the project choice preceding the choice of strategy for executing it (Watson and Shove, 2008, p. 82).

Davidson and Leather (2000) provide a useful study of DIY activities in the UK that draws on data from the Family Expenditure Survey and the English Housing Conditions Survey. They report (p. 748) that, in the UK in 1991, the proportion of work undertaken by DIY was only 15 per-cent for major structural improvements but as much as 60 per-cent for more cosmetic changes. Although those who engage in DIY can get much more work done for a given financial outlay at the cost of forgoing leisure time from other activities, it is the poor and those with more time available who seem to do less DIY (p. 751). Recent work by Williams (2008) reveals a

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more complex picture. In his sample, more-affluent households were both more likely to outsource routine and mundane kind and tended to undertake a much larger number of DIY tasks. He also identifies two kinds of consumers engaging in DIY: those who embraced it enthusiastically and those who did so only reluctantly.

Although some home improvement work is restricted to licensed tradespeople for health and safety reasons, potential to engage in DIY has increased greatly in the last half a century due to technological progress and changing distribution strategies in the hardware sector. For example, Home Depot sets out to be an unthreatening source of DIY knowledge that removes the separation between ‘trade’ and public customers (Melchionne, 1999). As already noted, another major factor in opening up DIY as a leisure activity was the advent half a century ago of television programmes that sought to share professional skills with viewers. Modern home improvement programmes serve less well as means of learning DIY, for they focus more on design than execution and feature ordinary people. Indeed, as Halliday (2005, p. 66) observes, the message of *DIY SOS* is *don’t* DIY, via ‘images of failed masculinity, rescued by a heroic team of tradespeople’.

To understand how these choices about the division of labour are made, it is instructive to apply theories of vertical integration from the industrial organization literature. Contrasting perspectives emerge via the ideas of Williamson (1985) and Richardson (1972), with the former redolent of the sentiments of the ‘Reluctant DIYers’ and the latter more in line with the perspectives of the ‘Willing DIYers’ identified by Williams (2008).

Williamson’s perspective is commonly known as the ‘transaction cost’ approach to vertical integration because it focuses on the costs of achieving reliable results by transacting with other parties. He contends that market transactions are likely to run into difficulties—and hence be avoided in favour of a strategy of internalization (that is, DIY)—if four conditions are present, namely, bounded rationality, opportunism, small numbers of potential trading partners and asset specificity. Bounded rationality makes it difficult to specify contracts that cover all possible contingencies without any ambiguity. This would not be a problem if parties to a transaction could be presumed to act in good faith and be willing to cooperate in the event of a difficulty once the contract has been signed. However, if one party has a personal interest in misrepresenting the situation and acts in a guileful manner—that is, with opportunism—then it may prove impossible for the other party to get that for which they thought they had bargained. An opportunistic contractor may be able to stage a ‘hold-up’, threatening not to implement his/her side of the bargain unless the other party agrees to offer a better deal. But opportunism is unlikely if the other party can readily fire an opportunistic contractor and make a deal with someone else. Even if there is a ‘small numbers’ problem, an aggrieved party may still be able to

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get out of the difficulty without loss so long as there is nothing to prevent that party from making other uses of what their money has so far bought in relation to the project. The trouble is, many contracts involve inputs that cannot readily be used in other projects. If all four conditions hold, either or both potential trading partners may judge that it is too dangerous to enter into a contract. Fear that a contract may prove unworkable and an expensive mistake will prompt them to engage in DIY.

Home improvements that involve experience goods or credence goods have considerable potential to run into these kinds of difficulties. Bounded rationality is an inherent problem where tradespeople know more than their clients do about the job at hand, and where projects involve the need to coordinate multiple activities in a particular sequence and/or work that goes beneath the surface of what is visible at the time quotations are being prepared. It is common for renovators to face disruptions due to the non-arrival of materials or tradespeople, or to be told by tradespeople that extra work has been found to be necessary. Delays will impose significant costs on the renovating household if they involve major disruption to everyday life, as with parts of the property being uninhabitable or the kitchen or bathroom being unusable. Suggestions about the need for extra work may have to be dealt with in a state of duress: while it may be work that is genuinely needed but which was not foreseen due to the problem area not being revealed until an old structure was removed, the customer may have trouble judging whether this is so. To try to resolve the credence good problem by seeking a second opinion may not only involve further expense but also be a source of further delays and sour relations with the existing contractor who has suggested that the extra work is necessary.

Risks of opportunism vary depending on context and can arise on either side of a home improvement contract. The client can fail to pay in a timely manner for work that has been done, and may have an incentive to do so if there is no likelihood of needing to hire the same contractor again. However, contractors can require instalment payments as the work proceeds as a means of reducing risks and improving the cash flow of their businesses. In a small community, word-of-mouth reports of bad experiences with particular contractors can have major repercussions for a contractor and serve as a deterrent to opportunism. In a large city, by contrast, the risks of the bulk of the population hearing of a contractor's poor performance are much smaller so there will be more temptation for contractors to behave in an opportunistic manner and greater nervousness among renovators about outsourcing the work.

The enormous choice of tradespeople in the Yellow Pages for a large urban area might seem to imply that renovators can fire unsatisfactory contractors much more readily there than in smaller, isolated communities and hence that, in fact, they have no need to be more concerned about the

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risk of opportunistic behaviour in the former case. This is not necessarily so: quite apart from the credence good issue (if it is present), a large number of potential suppliers is not the same thing as a large number of potential suppliers who can be hired at short notice if a contractor is fired. Chronic shortages of tradespeople such as plumbers and tilers can co-exist with large numbers of practising suppliers of such services. Where such shortages prevail, tradespeople may become more prone to depart from promised schedules or standards of work due to succumbing to temptations to concentrate their attention on more lucrative contracts with other customers. Premium prices could be asked by some firms in order to ensure that they will not be swamped with work and are able to deliver what they promise. However, there is no guarantee that customers who are concerned with hold-up risks will judge that price differentials provide reliable signals in this respect if their search processes have led them to infer (for example, via difficulties in getting tradespeople even to come and supply a quotation) that there is a major shortage of capacity in this line of business.

Asset specificity is normally discussed in relation to tooling, but in the context of home improvements it is less likely to be a problem in this respect: tools can be used on other jobs and specialized tools of high value are often available on a rental basis. Instead, asset specificity arises here with materials such as paint, piping, building boards and timber, or fixtures and fittings that have already been used in the project in question. For example, once tiles have been cut and fitted, it is difficult to remove and use them in another property if there is a dispute between a renovator and a tiler due to the former changing his/her mind about what to fit or complaining that the latter has not fitted them as per the renovator's instructions.

From Williamson's standpoint, it is easy to see why those making home improvements may prefer to engage in DIY: to get the work done as they wish, and without undue delay, the solution is to take control and limit reliance on contractors. A lack of trust in contractors may thus not only help explain why some people shy away from functionally necessary improvements but also why those who do decide to undertake home improvements opt for DIY even if they are short of leisure time and could afford to pay for contractors (see the discussion of 'rogue builders' in Holt and Edwards, 2005).

Williamson's perspective is called into question by the work of Richardson (1972), who focuses on differences in capabilities as the basis for the division of labour and organization of industry. While outsourcing puts the client at the risk of being let down or exploited by contractors, it is a way of reducing the risks of personal injury associated with home improvements and the risks of the work being done poorly, more slowly and with greater waste due to the shortcomings of the renovator's set of skills. The physical risks are not trivial: according to Monash University's Victorian Injury

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Surveillance Unit, in the state of Victoria in Australia there are 15 renovation-related deaths each year and more than 500 hospital admissions, and a third of eye injuries are related to DIY activities (Hoffman 2006).

Even if one member of a household is perfectly prepared to shoulder such risks, pressure from a concerned spouse may dictate that the work is handed over to professionals. Although DIY may indeed be an exciting pastime, work that looks overly challenging may be outsourced despite concern about the kinds of risks evident from Williamson's standpoint: even if the contractor acts with opportunism, the end result may be more cost-effective than that achieved via DIY.

So far, the only attempt to model the relative explanatory power of these two views of the DIY/outsourcing choice is that of Peng (2009), where 'the time spent on preparation' is used as a proxy for the scope of a renovation project and hence for its potential to run into complications that contractors could seek to exploit in an opportunistic manner. This factor—which could also be seen as a proxy for the presence of a small numbers problem if preparation time is a function of the difficulty of getting tradespeople to come and give quotations—had a significant *negative* influence on the likelihood of DIY renovation, the opposite of what Williamson's theory implies. This result is, however, consistent with the capabilities perspective from Richardson's analysis as it suggests that renovators are less likely to use DIY when the scope of the project—which will determine the tasks/capabilities involved—is too large for them to handle. Renovation experience was also found to be significant in choices between DIY and outsourcing: what counted were the types, rather than the number, of renovation experiences. That is, those with more experience in hiring others tend to follow the same path in their latest renovation and similarly for those who renovated by DIY: those who began with DIY would thus be likely to get more capable at DIY and be even more likely to continue with this strategy, whereas those who outsourced work would have opportunities to get better at choosing and managing contractors. However, although the scope of renovation projects was associated with choices at odds with Williamson's analysis, the finding that renovators who reported lower 'trust in contractors' had a bigger probability of DIY in their latest renovation projects reinforces his broader message about the significance of potential for opportunism in shaping choices between internalization and outsourcing.

7. OVERCAPITALIZATION AND COST OVER-RUNS

From the standpoint of rational choice theory it would not normally be expected that people would pour more resources into upgrading their homes

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than they could hope to recoup via a better resale price for their property. The only exception would be where they recognize that their preferences are unusual and judge that such improvements are the most cost-effective way of getting what they want even despite costing more than the value they add to their property. This may be due to the houses that have what they want offering it jointly only with more of some other features than they want or can afford.

The rational agent perspective seems to be potentially misleading in this context. Non-specialists are unlikely to be inherently more competent in project planning and management than the professionals who run into enormous problems of cost control with major public and corporate projects (classic examples include the Sydney Opera House, The Eurotunnel and the 1976 Montreal Olympic Games). Second, those whose unique new home projects provide the focus of the popular reality TV series *Grand Designs* almost invariably incur significant cost over-runs, while family researchers such as Goodsell (2008) and journalists (for example, Matterson, 2002; Tilbury, 2004; Swan 2007) who write about renovators likewise emphasize problems with cost control that add to family stresses associated with delays in completion. Third, it appears that often, instead of projects being embarked upon after a ‘grand design’ plan has been worked out, the grand design emerges along the way via a process of muddling through as consumers get a taste for making improvements and a growing vision of what is possible (Watson and Shove, 2008, pp. 83–4).

Problems in controlling costs are also to be expected if we examine home improvement choices from the standpoint of behavioural and psychological economics. Consider the following:

1. Soft budgets

Home improvers nowadays face much less well-defined budget constraints than rational economic man is presumed to face—not just access to credit cards but also the flexibility provided by home-equity/overdraft mortgages. Peng (2009) found that the probability of overcapitalization was increased if a renovation project was financed by an increased mortgage. In affluent societies, cost escalation is also permitted by the discretionary nature of many other kinds of consumption, since the latter can be postponed if there are pressing alternative calls on funds.

2. Complexity and bounded rationality

Other things equal, more complex projects will be more prone to entail expensive surprises. Peng found that both (a) the probability of overcapitalization was a positive function of the time spent preparing for the project, which may be seen as a proxy for its complexity, and (b) those who

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obtained more quotations from tradespeople were less susceptible to cost escalation.

3. The completion imperative

Once under way, home improvements are often difficult to reverse, but if not completed they may leave the householder with a property that is aesthetically and/or functionally worse than before the work started. If problems are encountered that are expensive to deal with, one strategy is to keep the total bill close to the original budget by scaling back the extent or lavishness of remaining work. This may seem to make poor economic sense, however, for low-budget revisions may have serious implications for the marketability of the property. In any case, the renovator may be locked into contracts with tradespeople, another factor that Peng found to be a significant predictor of overcapitalization. With full hindsight, it might have been wiser not to begin the renovation and to let the next owners of the property run into the unforeseen problems. Put like this, a cost over-run can seem worth sanctioning *ex post* even if the total cost of the project would, *ex ante*, have implied overcapitalization. This case for the extra spending does not involve an irrational treatment of sunk costs and an urge to complete the project ‘at all costs’ due to ‘sunk cost bias’ (Thaler, 1980). However, non-rational attitudes to sunk costs—that is, a desire to complete the project *because* of costs already incurred, so as not to admit that money has been wasted—may shape perceptions of the payoffs to letting costs escalate, as may cognitive dissonance between, say, the renovator’s self-image and a vision of a renovated kitchen or bathroom being fitted out less lavishly than planned in order to liberate funds to cover unexpected but unavoidable expenditure.

4. The sequential problem-discovery trap

Deficient foresight regarding a succession of problems that surface during a home improvement project can result in the renovator being caught in something akin to the sequential wear-out trap identified by Frankel (1955) in his analysis of how firms get locked into outmoded capital equipment. If all the problems with a project surfaced at an early stage, it might well be best to avoid overcapitalization by incurring the costs of a ‘cut and shut’ return to something akin to the original situation, abandoning any further work and leaving it to the next owner to discover what has been covered up. However, when there is a succession of unexpected problems, the arguments from the previous paragraph will at each stage tend to favour continuation.

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5. Embarrassment and domestic disruption

If friends and neighbours have been told about the project, the renovator faces being judged as a poor decision maker if it is abandoned or finished in a reduced version. By contrast, if it is finished as planned, it can be shown off without the inflated actual cost being clearly visible. If consumers who are prone to hyperbolic discounting can stop procrastinating and actually get home improvement projects started, they are likely to behave as if addicted to them (see Ainslie, 1992; O'Donoghue and Rabin, 1999) by giving undue weight to short-term disruption costs. This will make them particularly susceptible to suggestions by tradespeople about strategies that can solve unforeseen problems rapidly but at considerable financial cost compared with what they might achieve if they put the project on hold and shopped around for further opinions, even at the risk of the current contractor quitting.

6. Framing effects

Following Thaler (1980), we should expect consumers to focus on proportional increases in costs relative to an initial point of reference rather than on the absolute amount of the increase. Thus an additional \$1000 on a planned \$10,000 patio re-roofing project will seem less of a problem than, say, an additional \$500 on a planned \$3,000 bathroom upgrade (though disruption costs of a non-usable bathroom will probably mean that the extra \$500 is spent, too, if this is deemed necessary to get it functioning properly again). Likewise, a further \$1,000 on a project that has already escalated by \$1,000 will not seem so bad as the first escalation if it is now viewed as a percentage of the already-enlarged budget. Renovators may also adopt inconsistent attitudes towards spending on a project depending on whether the total cost appears potentially still to lie within a target frame or has already breached it. Once they are out of their initial frame, they may have no particular new goal at hand as a means to rein in further expenditure. For example, if the renovator has a personal goal to be out of debt by a particular point this may result in him/her choosing not to go ahead with some projects because these would compromise meeting that goal. However, if a project the renovator has decided to implement has turned out to be unexpectedly expensive and has made it clear that the goal is no longer feasible, then he/she may be less resistant to further unplanned spending to get it finished than he/she would have been if, by not authorizing it, his/her target would still be feasible.

Home improvers who anticipate having to consider unplanned increases in spending and who know they are likely to suffer from weakness of will would be wise to follow Ulysses' strategy of binding himself to avoid succumbing to the temptations of the Sirens (Elster, 1979). Outsourcing the

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entire project to a project management firm for a fixed price is one way of avoiding being talked into spending more, once the project is under way, by individual tradespeople who had previously merely given ‘estimates’. Such a strategy may come at some cost due to the firm building a risk premium into its calculations, but it reduces the risk of falling prey to the credence good problem via overservicing or opportunistic suggestions about a now-or-never chance to include something extra in the project. Those engaging in DIY also need strategies that limit how long the work takes. They can increase their motivation to get projects completed in a timely manner if it is possible to break them up into subprojects—for example, focus on giving one room a makeover, and then another, rather than seeing the project in terms of the entire house—and then reward themselves each time they complete a subproject (for other leisure-related applications of motivation-inducing choices of goals, see Earl, 1998, pp. 124–8).

The secret to containing outlays may be to practise precisely the kind of ‘mental accounting’ that is often portrayed as being irrational—that is, do not treat one’s financial resources as fungible but establish a dedicated ‘renovation’ account (ideally, an actual account with a financial institution, not just a mental one) with a definite budget limit from which all the bills will be paid. Even the latter may take some willpower to administer: if the account is based on an ongoing monthly deposit, for ongoing renovation projects, it will be less of a restraint than one that is project specific, since a cost and time over-run on a project can be allowed at the cost of future projects being delayed. Being hostage to one’s spouse, relatives or friends by making pledges about what will be done, by when and for how much, is another strategy implied by behavioural economics: the renovator then has the prospects of being nagged at and social embarrassment as incentives to keep the project under control.

8. CONCLUSION

Home improvement activities are a common way of using leisure time and discretionary income, but while they are often promoted as means to a more relaxing living environment there is little in the literature to suggest that home improvement activities are particularly relaxing forms of leisure. Such activities are seen as challenging, as sources of excitement and as sources of anxiety and nasty surprises, even if they do provide diversions from the boring routines of paid work. Those most likely to find home improvements a relaxing form of leisure are confident, capable consumers whose jobs offer far bigger challenges than they face when engaging in DIY problem solving or dealing with contractors. Economists who seek to understand home improvement choices from an equilibrium-focused standpoint based upon

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rational agent assumptions should do so with caution. The choice problem certainly can be seen as focusing on rival bundles of characteristics (as with ‘to move or improve’) with DIY/outsourcing choices based on comparative advantage. However, this is an area commonly characterized by expensive surprises, where progress with a project often opens the consumer’s eyes to potential for making further improvements rather than ending in a state of rest. Those who undertake home improvements may face shifting emotional states along the way and end up not merely with a better place to live but also with an enhanced set of capabilities, new decision rules and better sense of self. Along the way, escalating costs in time and money may have unexpectedly crowded out many other leisure activities. This sounds like an area ripe for further research from the standpoint of behavioural economics.

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