Automated Valuation Models: an international perspective

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Introduction

This paper describes two research projects: the first carried out during Q2 2007 for the Council of Mortgage Lenders (CML) and MacDonald Dettwiler and Associates (Downie & Robson, 2007). The second is a questionnaire survey of RICS Residential Faculty members, carried out Q2 2008, as part of an ongoing study funded by the RICS Education Trust and the RICS Residential Faculty, investigating how AVMs can integrate with valuation services to meet the needs of borrowers, lenders and RICS members. Both projects were undertaken by the School of the Built Environment at Northumbria University. The former predates the credit crunch and the latter coincided with it. The paper will first outline the main findings of the CML report, then those of the valuer questionnaire and finally draw conclusions about issues for consideration by professional and industry bodies.

The CML project's research aims

The research aimed to investigate three main aspects of AVMs:

a. Use - to establish the extent to which AVMs are used in countries other than the UK and to set this knowledge in the context of factors driving and impeding their take-up.
b. Regulation – to establish the restrictions on their use.
c. Developments and innovations- to establish those that may be relevant to the UK.

Research methods

The research was commissioned as a desktop study. The first phase used web searches to identify countries where AVMs are being used or developed. Interviews were carried out by e-mail or telephone with contacts found through web searches. The second phase developed case studies of Australia, Canada, Sweden and the USA using a questionnaire, telephone interviews and e-mail correspondence to gather qualitative information from industry contacts. The main research limitation was that only English language resources were accessible and as a result AVM use may have been under reported in some areas, Asia in particular. The report should therefore not be read as a definitive analysis of international AVM use.

Global overview of AVM use for loan origination

Global use at a glance

Figure 1 provides the resulting overview of global AVM usage. The AVM user markets are classified as non users, fledgling, early stage, developing and established. Countries have been classified in this way against a number of criteria :

- Extent of use of electronic modeling software
- Number, type of AVM providers and length of time in operation
- Advanced AVM programmes available within a platform of services
- Extent of use of AVM for different purposes
- Confidence and experience in use of AVM
- Reliability of AVM outputs
- Use of testing and of confidence scores
- Data availability and extent of coverage
- Maturity level of the property market.
- Extent of regulation and acceptance by Appraisal Bodies
- Development of AVM standards

Figure 1. Global AVM Use

Development stage	Country	AVMs used for :			Comments
		1st mortgage	2nd mortgage	portfolios	
Fledgling	China	-	-	S	AVM's have a small market share in Hong Kong and Shenzen .
Fledgling	Japan	S	-	S	Extending coverage from condominiums to single houses and areas of the country beyond Tokyo .
Fledgling	Malaysia	-	-	-	There is reference in literature to use of 'electronic desktop valuation'.
Fledgling	Poland	-	-	-	There is reference in literature to use of 'electronic desktop valuation'.
Fledgling	Romania	N	N	S	Insufficient quantity of quality property data .
Fledgling	Singapore	N	N	S	Reference to AVM's being used as a check on valuations.
Fledgling	South Korea	Y	-	-*	* This is highly likely but not able to confirm.
Fledgling	Taiwan	S*	-	S*	*Reference in literature to use for banks in-house appraisals .
Early stage	Australia	Y	Y	N	Limited application in rural locations, used as fraud check, low confidence levels.
Early stage	Ireland	S	S	N	Sometimes used as stand alone or appraisal check.
Early stage	New Zealand	S	S	-	Use in the last four to five years by a number of banks for low LTVR lending
Early stage	South Africa	S	S	-	Recent growth of lenders in house AVMs and in commercial products.
Early stage	Switzerland	S	-	-	One major bank uses its own AVM for loan origination
Developing	Denmark	S	S	S	One major bank approved to use AVM by Danish FSA, others soon to apply for approval.
Developing	Germany	S	S	Y	Used sometimes as standalone and as check more for initial purchase then second loans. AVM use limited by risk adverse lenders and quality of AVMs
Developing	Netherlands	S	S	N	Used as check on appraiser valuations but high LTVR limits use. Use for Portfolio Valuation expected in next 2 years
Developing	Spain	S	S	N*	*Individual valuations needed for portfolio valuations (European Mortgage Federation, 2006)

Developing	UK	S	S	S	Used primarily for remortgages and portfolios, Emerging use for initial purchases.
Established	Canada	S	Y	Y	AVM market concentrated in specific locations
Established	Sweden	Y	Y	Y	Long history of use.
Established	USA	S	Y	Y	More use for second loans, less for initial purchase.

Y indicates that the research found substantial acceptance of use,

S indicates there is some acceptance of use

N indicates little or no use

A dash indicates that no information was found about use for this purpose

In all cases use is qualified by lenders' and regulators' specific risk policies.

The extent of AVM use in the lending market

AVM use was found around the world but many countries do not appear in the list because no information was found indicating AVM use. This includes India, Russia and South America as well as many smaller countries. Although AVM use is only well-established in three or four countries, its development is accelerating in the large number of other markets which can benefit from the experience of these pioneers.

'Early stage' users limit their use to portfolio valuation or to check value at loan origination. The 'established users' of Sweden, USA and Canada have confidence in their use for second mortgages and were beginning to use them for first mortgages and as part of lenders' collateral risk assessment policies.

'Early stage' markets are now reaching maturity much more quickly, within the constraints of available data, due to the speed of transfer of techniques and experience from the 'established' markets. The US market has taken twenty years to establish but in countries introducing AVMs in the 2000's such as the UK and Japan, the time to establish is shortening; for instance taking only seven years in the UK.

The USA's and Canada's AVM use is best established and AVMs have been transferred from here to other English speaking countries with comparable competitive commercial lending environments and established property markets, such as the UK, Australia, New Zealand and South Africa. Models need to reflect a country's individual housing stock and factors driving value, so established models must be adapted: for example US models were found inappropriate in the UK where value per bedroom is key rather than value per square metre.

AVM providers and bankers in established markets may generate fledgling activity in neighbouring countries as they seek new business in areas of strong economic growth: for example the AVM provider in Japan adopted principles from US models and applied them to the condominium Japanese market. US providers emphasize the need for in-country real estate partners in Asia to provide market understanding, contacts for data and market share and to overcome language barriers.

Drivers of global AVM use

Cheaper, faster and more accurate collateral valuation

The most frequently mentioned driver of AVM use is the need for lenders and mortgage brokers to speed up the loan decision process from weeks to days in the face of increasing competition for business. The instant output of an AVM avoids the delay arising from an inspection valuation. AVMs charges are very significantly less than fees for a gold standard valuation in all countries, savings which may allow commercial advantage to the lender.

market size:

AVM providers seek marketing opportunities where the size and density of population, levels of economic growth, owner occupation and sales transaction volumes are sufficient to generate commercial returns to warrant the costs of AV modelling. In the USA there has been scope for the development of over twenty commercial AVMs compared with Sweden where there are two commercial models and the UK where there are four. France, Turkey, Russia, India, Brazil and Mexico have home

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**In charts, the key 'lenders' and 'valuers' denote respondents working for lending organisations and valuation organisations respectively*

ownership and population figures which might support AVM development yet we have not found any evidence of their use.

AVM providers expanding outside their established markets look for local partners to reduce development costs and obtain market share. In Germany a new commercial AVM is being supplied by a joint venture bringing together the experience of MDA, a provider from US and the consulting branch of HypoVereinsbank which has access to the data of a million properties all over Germany.

Existing use of House Price Indices

Prior acceptance of statistical methods of evaluation (e.g. house price indices and sampling) shows a readiness to move to full use of AVMs: for example UK, Sweden, South Africa and Australia have used HPIs for decades.

Growth and adoption of electronic communication in mortgage business

Adoption of electronic platforms to deliver instructions and reports and to integrate real estate services, legal services and mortgage and bank lending were found in countries with AVM use (China, Denmark and Australia). Using AVMs can be seen as part of this trend to speed and efficiency.

Development of computerised mass appraisal for taxation (CAA)

There is a strong correlation between those countries with a system of computerized mass appraisal for taxation and those using AVMs. If comparable sales data collected by the tax authorities can be reliably modelled to find market value for taxation, then it should be suitable for AV modelling, assuming it is made available. CAMA has been used in the USA, Denmark, Netherlands and Sweden for 20 years or more, all countries with developing or established AVM use. Germany, Spain, and Korea all use mass appraisal and have 'early stage' AVM use while Japan and the UK are developing CAMA and AVM use simultaneously. Russia, Lithuania, Estonia, Belarus and Slovenia are developing CAMA systems but there was no evidence yet of AVM use there.

Countering valuer bias and combating fraud

AVMs provide lenders with an objective tool to review and improve the quality of appraiser valuations and to combat fraudulent activities of valuers and borrowers, issues raised in the USA and Canada. Combining multiple AVMs can increase coverage, accuracy, confidence and volume of valuations, being more efficient than human valuers with localised market knowledge.

Shortage of supply of valuation service providers

The UK, Australia and South Africa report a shortage of valuers with the majority approaching retirement age. AVMs can alleviate this problem whilst also being seen as a threat to jobs.

More sophisticated risk management

An AVM provides a statistical result easily integrated in a continually validated qualitative risk management programme. Lenders' requirement for better risk management, demonstrable both internally and externally, will drive future evolution of traditional appraisal practice.

Professional body acceptance of AVMs

The professional bodies initially saw AVMs as a threat to valuers' employment but in mature markets guidance to members on using them is now incorporated in professional standards. RICS and TEGOVA task groups are looking at the implications of AVMs. Australian Property Institute (2008), USA Appraisal Foundation (2006) and Canadian Uniform Standards of Professional Appraisal Practice (2008) have all developed policy.

**In charts, the key 'lenders' and 'valuers' denote respondents working for lending organisations and valuation organisations respectively*

Constraints on AVM use

Data limitations

AVMs depend on the accuracy, comprehensiveness and timeliness of the data they use (Fannie Mae, 2007); without sales or value data they cannot produce a result. They are most reliable when valuing typical properties in stable neighbourhoods at prices close to the median for the locality (Fitch, 2006) and less reliable when there are incomplete data records, few sales in a geographical area, unique properties or unique local markets. The difficulty of modelling purchasers' preferences for non physical property characteristics such as views, gardens and sunshine are mentioned in literature in relation to Korea (Myoung-Soo Jang, 2006).

The availability of transaction and descriptive property data is fundamental for AVMs and is the stumbling block preventing development in many countries. Those with property based taxation systems collect some of the necessary data, and it has been a major stimulus to AVM development, but in some instances it is not publicly available. Other countries do not have the necessary public data collection and AVM providers have to amass and clean expensive, sometimes scarce or poor quality data before they can build their models, often starting in densely populated urban centres. Legislation may not allow national CAMA data to be sold to the commercial market, as for example in the UK, Germany and Texas, in contrast to the situation in Canada where two of the tax collection bodies sell their own AVMs commercially using their own data. Where data has to be collected privately, AVMs are far more difficult and costly to develop although some large lenders have access to sufficient transactional data to develop their own AVM, as in Germany and Sweden. In China property data is not transparent so AVMs use asking prices not market prices while in Korea rising prices mean that purchasers and vendors are becoming more reluctant to disclose transaction amounts so the database is difficult to develop, too small to apply regression analysis and of questionable accuracy (Jang, 2006).

The need to inspect property

AVMs cannot capture information about a specific property's internal or external condition, improvement or disrepair (Fitch, 2006). However, adding photographs and mapping information value determinants such as orientation and aspect can help overcome some situational omissions. Fitch (2006) points out that the greatest weakness of stand-alone AVM valuation is that it assumes the property is in marketable condition with vacant possession, is not improved internally beyond normal standards - facts that would be apparent on inspection. Some AVMs in the US now flag up properties in flood affected or other disaster areas.

Financial Regulation of the lending process

Rating agency attitudes to AVMs are very influential in determining their use by lenders and regulation has tended to be relaxed as experience of AVMs increases and they become better understood. As AVM experience became established In the USA, the rating agencies abandoned blanket policy of haircutting AVM values in favour of placing responsibility on lenders to demonstrate that they regularly justify, test and audit their AVM policies. A similar approach was adopted by the FSA in the UK (FSA, 2007). PWC (2006) point out the importance of continuous involvement in the testing process by Risk Management or Credit Policy divisions to ensure that the test results inform future AVM use. Smaller lenders using AVMs may be less equipped to do their own testing.

Tighter regulation is evident elsewhere: for example in Denmark using AVMs for loan origination purposes is only permitted for owner occupied dwellings and Danish FSA approval of the model is necessary. As a result AVMs have not been used on a large scale, although banks have used them for internal checks. In 2005 the FSA authorised a major mortgage bank to use an AVM in loan origination and several other banks are thought to have applied but have not yet been authorised. In Spain, yet

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another 'developing' user, regulation has not yet been relaxed and individual valuations must include a physical inspection for origination of loans pooled for RMBS or covered bonds, excluding the possibility of using an AVM as the sole approach.

Risk Acceptance

The main impediment to further using AVMs is caution over inaccuracy. Where accuracy is less critical, for instance at low LTV or when credit and capacity are good, and where the physical property has already been checked, as for second mortgages, AVMs may be judged acceptable despite this concern. This leaves loan origination at high LTV as the least likely scenario for AVM use. Expensive and slow traditional valuation processes were being replaced by instantaneous and cheap AVMs, tempered by the countervailing pressure to maintain prudent loan decisions. The mechanics of this trade off are complex, requiring decision rules which mix AVM confidence scores with credit and capacity assessments and LTV ratios. Lenders face the challenge of generating their own rules which have to evolve constantly in response to market changes.

Several lenders pointed out that AVMs had, in 2007, not yet been tested in a falling housing market. Although values have fallen in the last two years in some locations in the USA no evidence was found that AVMs had yet been found wanting in these circumstances.

Conclusions of the CML research

The US has pioneered AVM development as providers seek added value from their systems. The main areas of innovation involve the integration of collateral, credit and capacity data and decision rules in electronic loan decision making platforms. AVMs were increasingly being integrated into these platforms in the USA to create a unified risk management solution. AVM cascades, AVM testing, fraud detection systems and hybrid AVMs involving rules based selection of valuation service levels fit neatly into this type of approach.

In the USA the barriers between human and electronic service levels are becoming blurred as AVMs become part of a more complex range of services, in which valuers engage with and modify AVMs and the comparables and data provided with them, moving from a single figure output towards the richer information traditionally supplied as an appraisal. It is clear from the US experience that although many valuations will eventually be carried out electronically, human valuers will not become obsolete. They are required to interpret, check and evaluate AVM outputs and where valuers choose to add AVMs to their toolkit they can add value and speed to the professional service offered.

Research for the RICS: integrating AVMs with valuation services to meet the needs of borrowers, lenders and RICS members

Following the CML research project (CML, 2007), the RICS Education Trust and its Residential faculty funded research into integrating AVMs with valuation services to meet the needs of borrowers, lenders and RICS members. As part of this project an on-line questionnaire survey was hosted by the RICS website and Residential Faculty members were invited by e-mail to answer it during the seven weeks to 31st July 2008. Participation was incentivised by a £40 retail voucher. Of 573 responses, 473 were valid, the others being substantially incomplete. The sample was unavoidably self-selecting, but respondents were encouraged to answer questions about AVMs even if they had not used them. Their views are valuable in designing future education and training and to reveal the full range of perceptions. The survey will be supplemented by in depth interviews with lenders and valuers before conclusions are reached about policy options open to stakeholders. Meanwhile, the following sections outline the survey findings, albeit omitting detail for reasons of brevity, and then suggest overall conclusions.

**In charts, the key 'lenders' and 'valuers' denote respondents working for lending organisations and valuation organisations respectively*

The sample's experience, employment and roles

Respondents' range of employment was wide. 97.5 % were in surveying employment, 2.5% being retired or unemployed. Only 9.1% of responses were from valuers employed by lenders: a small percentage, reflecting the trend amongst lenders to outsource mortgage valuations rather than employ in house staff. In the charts following they are referred to, for brevity as 'lenders'. 79% of the responses were from valuers working in organisations covering areas from local to international scale; they are referred to in charts as 'valuers'.

Their profile is very largely of competent, middle aged, senior professional members with much experience of mortgage valuations and the context in which they are instructed. 93% of the respondents had experience in mortgage valuations, 79% of them were over forty years of age and 71% had ten or more years' experience of mortgage valuations. With this background, the majority have witnessed the technological advances affecting instructions, transfer of information and strategic changes in business practices. Adaptation to change is familiar to those with 10 years or more experience and their responses to AVMs are of interest because of this.

Respondents were asked to identify all activities listed in Figure 2 in which they or their employer were engaged. The question allows for the complex interaction of business activities between those involved in selling property, lending on it and valuing for lenders.

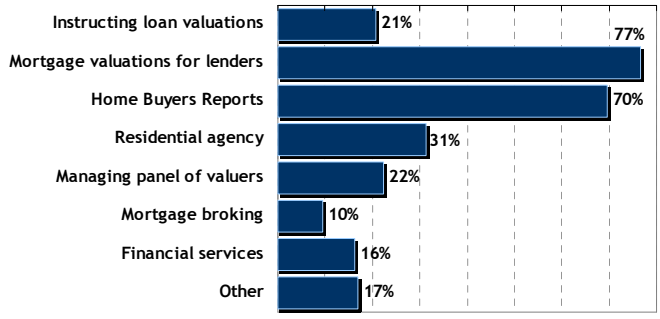

Figure 2: Activities engaged in by the respondents or their employers

Carrying out valuations and HBRs were the most widespread activities, but substantial numbers engaged in multiple activities, including instructed loan valuations and managing panels of valuers. This is welcome reassurance that respondents were knowledgeable about all the areas addressed in the questionnaire.

Growth and decline in types of loan valuation

Respondents were asked about the type of loan valuation instructions acted upon in the 12 months to July 2008. The credit crunch has affected this period including lenders' attitudes to risk taking.

Figure 3: Respondents' experiences of different types of valuation: the most frequent responses.

	Drive by	Full inspection	HBR	AVM
usage in 12 months to end July 2008	64% say they constitute <10% of cases	44% say they constitute >75% of cases	34% say they constitute <10% of cases	49% say they constitute <10% of cases
change in share of valuation cases over the last 3 years	56% say cases increased ↑	52% say cases decreased ↓	54% say cases static →	51% say cases increased ↑

Full inspection (internal and external), the traditional lender's instruction, appears to be the most widespread loan valuation method. 44% of respondents said it represents more than three quarters of their valuations. HBRs instructions are lower, a third of respondents said they constitute less than 10% of their cases and another third said they are 11-25% of cases.

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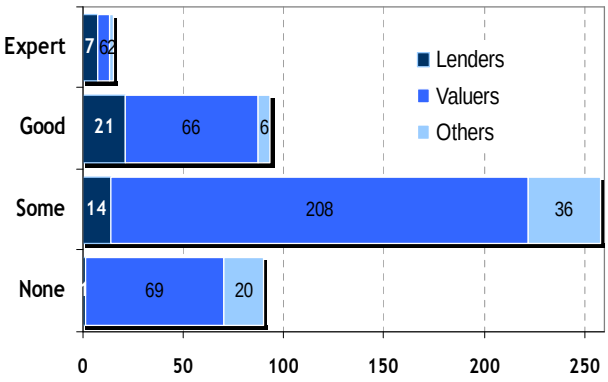
Drive bys and AVMs are minority parts of the caseload, each less than 10% of instructions. Both are used by lenders for low risk lending scenarios, primarily for remortages whilst the full inspection is used for purchase. This level of AVM use tallies roughly with the findings of a survey (CML, 2007): "In 2007, lenders predict they will use them for 3% of house purchases and more than a quarter (28%) of remortgaging". The intentions reported to the CML may not have been realised as the lending environment altered in H2 2007. In the RICS survey 60% of respondents declined to identify AVM cases, perhaps because lenders or their valuation service providers select and implement AVM cases at an early stage, so valuers lower down the chain of instructions are unaware of them.

Figure 3 shows that more than half the sample believed that full inspection, the most frequent type of instruction, has decreased over the last three years whereas a third said it was static. Although drive bys and AVMs account for a small percentage of cases, over half of respondents believe they increased in the period. The RICS Red Book content directed at valuation for lending purposes has to date focussed on full inspection valuations with no substantial reference to limited inspection nor to AVMs. The trends outlined here suggest this should be reconsidered.

AVM knowledge and use

In view of the respondents' profiles and low level of AVM instructions, it is perhaps surprising that only 20% say they have no AVM knowledge. There may be some uncertainty in interpreting these knowledge levels.

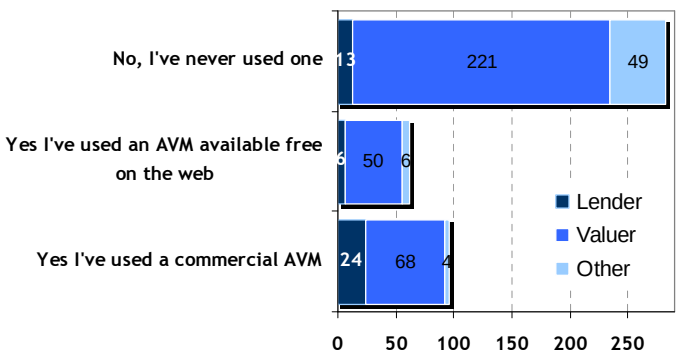
Figure 4*: Respondents' knowledge about AVMs (number of responses).



Respondents working for lenders are significantly more likely to have good or expert AVM knowledge than are those working for valuers. The leading knowledge source identified is the RICS, slightly ahead of CPD and employer training. 72% of the respondents expressed willingness to learn more about AVMs: a significant consideration for the RICS in planning future education and CPD. Preferred sources were publications and local rather than national CPD events. The main alternatives identified were web based information or training resources.

Respondents were asked whether they had used an AVM. The question attempted to distinguish between bona fide 'commercial' AVMs and free house valuation websites. 64% of those replying to this question had not used an AVM, 22% had used a commercial AVM, and only 14% had used a free web based AVM.

Figure 5*: Respondents' use of AVMs (number of responses)



The exact meaning of a 'free web based AVM' was not defined and may have caused confusion; the numbers using one is surprisingly low bearing in mind the number of

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free residential house price sites on the web.

Figure 6 shows that commercial AVM use amongst respondents working for lenders is higher than amongst those working for valuation organisations, a difference statistically significant at the 5% level.

Figure **6***: Numbers of respondents who have used AVMs.

	never used	Have used a commercial AVM	Have used an AVM available free on the web
Lenders	13	24	6
Valuers	221	68	50

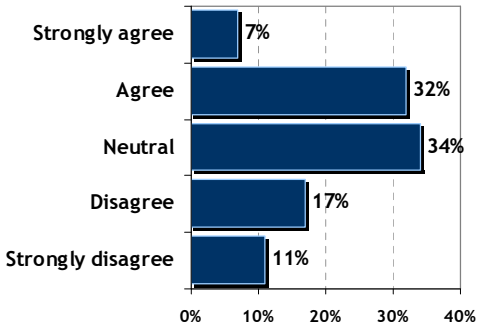
456 respondents gave information about both their knowledge of AVMs and whether they had used one. Comparing these, as shown in Figure 7, reveals a higher incidence of commercial AVM use amongst experts, as would be expected, compared to those with 'good' levels of knowledge and a strong tendency to non-usage amongst those claiming only 'some' knowledge.

Figure 7: Levels of AVM knowledge compared to AVM use.

AVM Knowledge level:	never used an AVM	have used a commercial AVM	have used an AVM available free on the web
Expert	0	12	2
Good	23	50	20
Some	184	33	35
None	76	1	5

Although only 96 RICS members said they use AVMs, this does not mean their involvement carries low levels of responsibility in the lending process, nor that limited use is being made of them. The transactions being processed by these means amount to very large volumes of lending.

Figure **8**: I would like to use AVMs to supplement my valuations



More than a third of respondents have an open mind over using AVMs to supplement their valuations, 39% would like to use AVMs in this way and a minority group, 28%, reject the idea of using them. Aggregating the respondents into those that agree or disagree with the statement shows a statistically significant difference, at the 5% level, between lenders and valuers, with 82% of lenders wanting to use AVMs to supplement their valuations, compared to 53% of valuers. Moreover, there is a greater desire to use AVMs as a supplement to valuations amongst those who have already used an AVM, either commercial or available for free on the web. This difference is statistically significant at the 5% level, within both the valuer and lender groups. Many commented that they wish to use AVMs as a tool to supplement their valuations, not to replace them and that their skills could usefully supplement AVMs.

Figure **9***: Valuers cannot themselves benefit from using AVMs **(number of responses)**

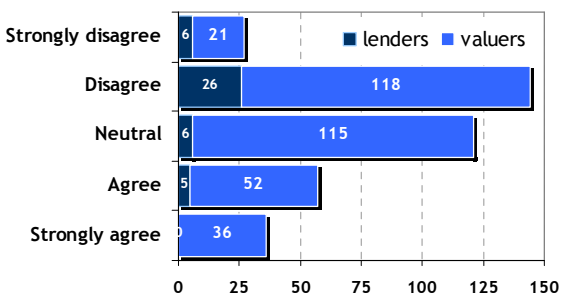


Figure 9* shows the response to a negatively worded statement about the potential benefits of AVMs to valuers. 44% of respondents take the positive view that valuers can benefit from using an AVM, 33% are neutral and a minority of 23% believe they cannot benefit. Overall,

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lenders are more likely to disagree with the statement than are valuers, a difference statistically significant at the 5% level. Amongst those who have used a commercial AVM in the past, lenders are almost unanimous in disagreeing with the statement, whereas valuers are less convinced, those that disagree outnumbering the others by a ratio of 3 to 1.

Overall there is a positive attitude to AVMs, either despite or perhaps because of the widespread belief, held by 70% of respondents, that AVMS will replace more valuers' work in the future. The large neutral responses may reflect lack of knowledge and the newness of the product

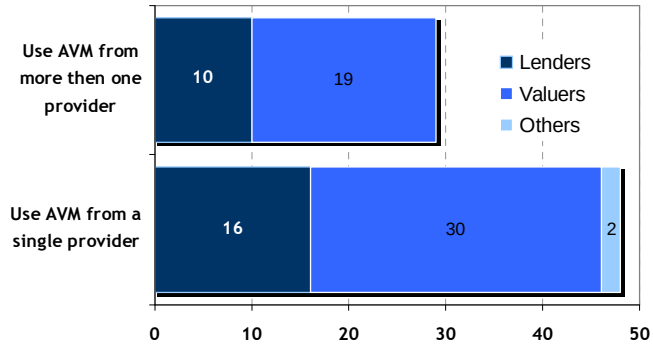
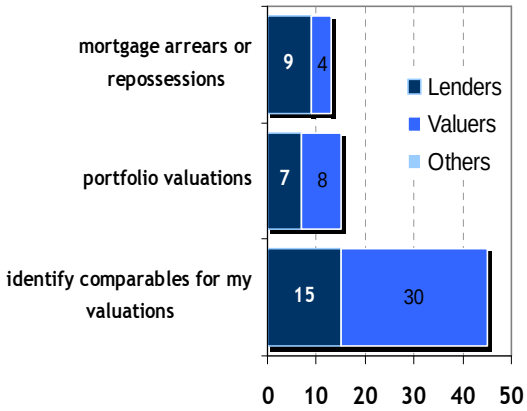


Figure 10*: Use of single or multiple AVMs (number of responses)

Figure 10* shows that, of those using commercial AVMs, more respondents use outputs from a single provider than from multiple providers but it is unknown whether the latter are used regularly, nor how many. There is no statistically significant difference here between the proportion of respondents working for lenders or valuers.

Figure 11*: AVM use for specific purposes other than mainstream loan valuation (number of responses)



In all 92 respondents have used AVMs and Figure 11* shows the extent of use for specific purposes other than mainstream loan valuation. Respondents working for lenders are more likely to use AVMs for portfolio valuations and for arrears and repossession cases, reflecting the focus of each group' activities.; Only 8% of valuers compared to 35% of lenders use AVMs to identify comparables, perhaps because lenders tend to have both more access to AVMs and also a wider geographic remit, making them more remote from local markets. Chi-squared tests reveal these differences as statistically significant at the 10% level in all three cases.

AVM policy

Both the CML study (Downie& Robson, 2007) and interviews for the RICS research (2008) showed that policy for use of AVMs is set at a high level, in conjunction with other credit risk policy. Once decided, it is built into loan processing systems which determine automatically, on the basis of criteria set at a policy level, whether individual loan and property combinations should be routed to the AVM option. This approach relegates the need for one-off judgements to a small number of marginal cases.

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Figure **12***: Deciding when AVMs will be used for loan valuations **(number of responses)** .

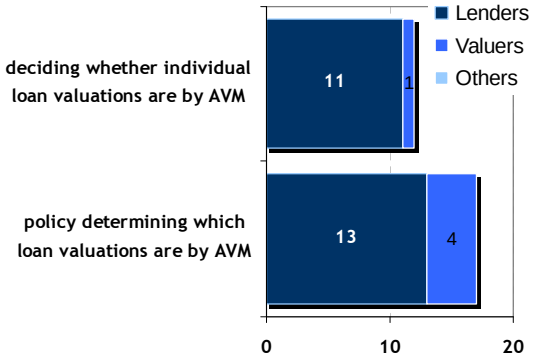


Figure 12* shows that, of respondents using commercial AVMs, only a very limited number engage in these activities. There are 17 respondents determining, at a policy level, when AVMs should be used and just 12 make loan or property specific judgements of this nature. Moreover, as expected these activities take place predominantly within lending organisations.

Monitoring accuracy of AVMs and of valuations

Considerable attention has been paid over the years to accuracy achieved by valuers (Crosby et al., 1998). Conversely AVM accuracy has been studied in depth (Fitch, 2006, 2007) and in this survey a substantial majority revealed concerns about the accuracy of AVMs relative to that achieved by valuers. Accuracy is therefore a key issue. AVMs can be used to audit valuers' accuracy and out of sample transactions and valuers' outputs can be used to monitor AVM accuracy (Downie & Robson, 2007). AVMs themselves are accompanied by an accuracy measurement in the shape of a confidence score or rating.

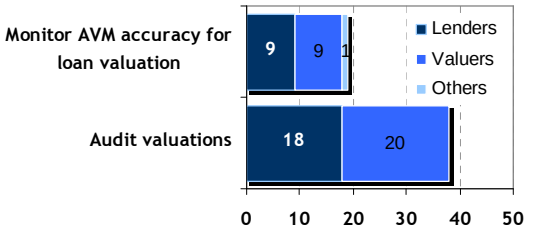
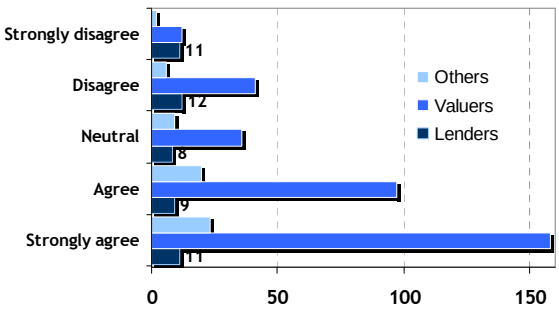


Figure 13*: Monitoring accuracy of AVMs and valuations (number of responses)

A far higher proportion of lenders, compared to valuers, audit valuations and monitor AVM accuracy, functions usually carried out at the centre of lending organisations. Since valuation is the norm for a large share of loans processed, it is unsurprising that monitoring AVM accuracy involves fewer people: 19 in total, than does auditing valuations: they constitute a fifth of respondents working for lenders but only 2.5% of those working for valuers. This is a particularly important area (Fitch, 2006) and merits further research.

Perceptions of AVMs

Figure **14***: AVMs are inadequate for loan valuation because there is no physical inspection **(number of responses)**



71% agreed that 'AVMs were inadequate for loan valuations because there is no physical inspection' compared with 17% who disagreed and 12% were neutral. Overall this represents a strong vote for inspection as part of the valuation process.

In charts, the key 'lenders' and 'valuers' denote respondents working for lending organisations and valuation organisations respectively

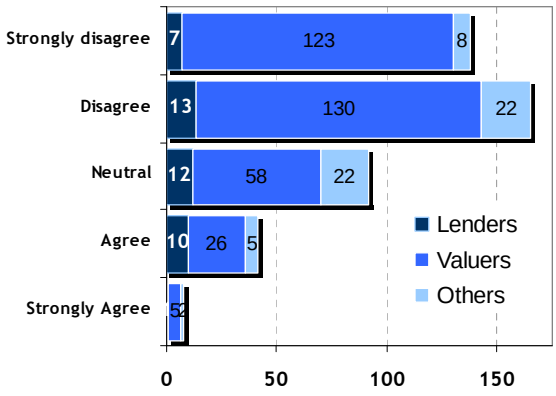
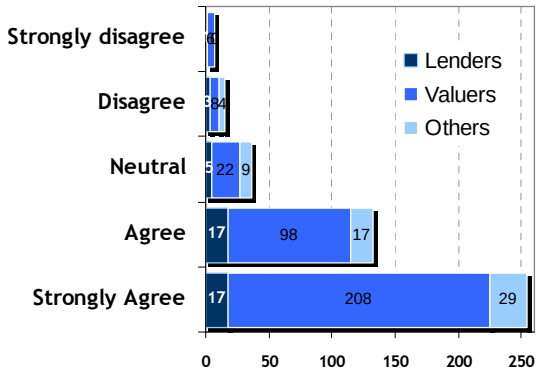


Figure **15***: AVMs are more objective than valuers, because they avoid client influence **(number of responses)**

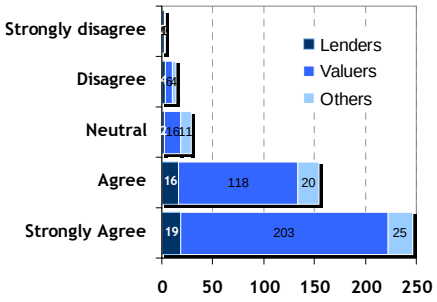
Respondents were asked whether they agree that AVMs are more objective than valuers, because they avoid client influence. 21% of respondents gave neutral answers, suggesting they felt unable to judge one way or the other, and 11% agreed with the statement, but they were heavily outnumbered by the 68% who disagreed.

Figure 16*: **Valuations are more accurate than AVMs because of valuers' local knowledge (number of responses)**



There was a strong majority view, that valuations are more accurate than AVMs because of valuers' local knowledge, with 87% agreeing, 8% neutral and only 5% disagreeing.

Figure **17***: Valuers' ability to evaluate comparables is a major advantage over AVMs **(number of responses)**.



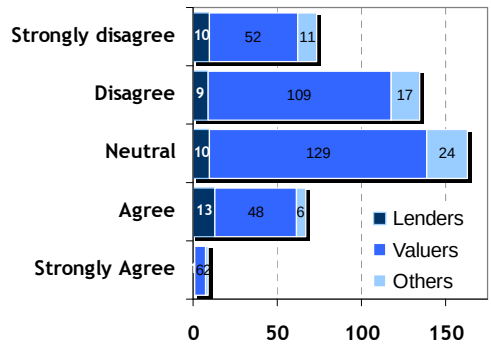
The majority agreeing that 'valuers' ability to evaluate comparables is a major advantage over AVMs' was even stronger, at 90%. 6% were neutral and only 4% disagreed.

When asked whether they agreed that 'inspection by a valuer reduces the risk of fraud' 87% of respondents agreed, 10% were neutral; and 3% disagreed. The benefits of inspection which views both the property and the vendor or borrower was strongly supported as a means by which lenders can combat fraud.

The confidence demonstrated here, in core professional competences, is to be expected from this sample of RICS members. There was no statistically significant difference, at the 10% level, between respondents with expert/good knowledge of AVMs and those with some/no knowledge, in responding to the questions concerning the objectivity of valuers, the benefits of their local knowledge and their ability to evaluate comparables. There was however a difference in views between lenders and valuers in all three cases, which is statistically significant at the 5% level. Lenders' views, although recognising the skills and benefits of valuers compared to AVMs, valued these skills less highly than those working for valuation organisations

**In charts, the key 'lenders' and 'valuers' denote respondents working for lending organisations and valuation organisations respectively*

Figure **18***: AVMs can be inaccurate, but their 'confidence score' means this isn't a problem: views of lenders, valuers & others **(number of responses)**



35% chose a neutral answer to this statement: This reflects overall low levels of understanding of confidence scores attached to AVMs. Relatively few valuers, just 7%, said they can interpret confidence scores, compared to 42% of lenders. Disagreement with the statement substantially outweighed agreement, with 47% of those answering this question disagreeing compared to 17% agreeing. Valuers were more likely to be neutral, reflecting their relative lack of knowledge about confidence scores, or to disagree, than lenders. Given low numbers able to interpret confidence scores, those disagreeing may have based their response on general beliefs rather than experience.

Figure **19***: AVMs can be inaccurate, but their 'confidence score' means this isn't a problem: views of those with high & low AVM knowledge levels **(number of responses)**

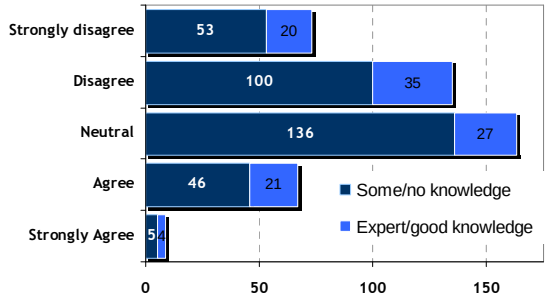


Figure 19 shows how these responses break down between those with high and low AVM knowledge levels. Those with some or no knowledge understandably mainly declined to express a view on this issue, but 60% of them have hazarded a view, with 45% of them disagreeing with the statement. Those with higher levels of knowledge are more likely to disagree with the statement, by a ratio of 2 to 1

The adequacy of information available to borrowers

The questionnaire was intended to test views about the adequacy of information available to borrowers when choosing between valuation services. Seven information issues had been identified from interviews with valuers and lenders, carried out during the period May to June 2008. the respondents were first asked whether they thought there was adequate information available, and if they answered 'No' they were asked which of four parties should provide the information, and given an option to identify an alternative. Figure 20 outlines the answers to the former questions.

Figure 20: Are borrowers given enough information about these issues when they take out a loan?

		Yes	No
a.	The range of valuation and survey services available	17%	68%
b.	What an AVM is	2%	71%
c.	Differences between the report contents from each valuation and survey service	12%	77%
d.	Valuation purpose is to support the lender's decision rather than authenticate the purchase price	16%	73%
e.	Benefits to borrower of a higher priced survey or valuation service	10%	80%
f.	Implications for the borrower of a valuer's PII	8%	73%
g.	Valuer is not involved when an AVM is used	5%	64%

Overall these results show a strong majority view that borrowers are uninformed about all issues. Issues c) and e), which inform borrowers' choice of service most directly, were perceived as having the greatest

In charts, the key 'lenders' and 'valuers' denote respondents working for lending organisations and valuation organisations respectively

information deficit. There is least certainty about issue g) to which 31% answered 'Don't know'. Interviewees and survey respondents pointed out the potential conflict of interest arising at point of sale, when borrowers choose a valuation and survey level. Mortgage brokers are keen to progress mortgage approvals, and risk delay or aborted sales from 'higher' levels of survey and valuation which might be in the better interests of a purchaser.

Figure 21: Who should give borrowers information about these issues when they take out a loan?

	Solicitor/ conveyancer	Lender	IFA/point of sale	RICS
a. The range of valuation and survey services available	22%	32%	23%	23%
b. What an AVM is	14%	39%	23%	23%
c. Differences between the report contents from each valuation and survey service	19%	30%	20%	31%
d. Valuation purpose is to support lender's decision rather than authenticate the purchase price	20%	39%	22%	19%
e. Benefits to borrower of a higher priced survey or valuation service	24%	28%	19%	29%
f. Implications for the borrower of valuer's PII	23%	24%	13%	41%
g. Valuer is not involved when an AVM is used	19%	39%	21%	20%

The responsibility for filling this information gap is not clear cut. Figure 21 shows the respondents' views of where responsibility lies for better informing borrowers. Where there is a clear 'front runner', they have been highlighted in dark blue. In some cases there are joint candidates with similar popularity, highlighted pale blue.

All four parties are identified as having some responsibility for all issues, but lenders are clearly seen as having the greatest responsibility, apart from the implications of valuers' PI insurance, which is seen as mainly an RICS responsibility. Other areas where the RICS is perceived to have a major role are in distinguishing report contents and explaining the benefits of higher level surveys. Only two of these issues relates directly to AVMs, and in these cases lenders are seen as most responsible. Interestingly responsibility for issues c) and e) which are perceived to have the greatest information deficit, is attributed equally to the RICS and lenders.

Conclusions

The growth in use of AVMs for processing loan valuations has been established (Downie & Robson, 2007, CML, 2007) and is supported by the more recent survey of valuers reported here. Albeit still representing a small minority of cases, AVM's share of valuations is growing, as is that of drive-bys, at the expense of traditional full inspection services. Given that RICS Red Book content directed at valuation for lending purposes has focussed so far almost entirely on full inspection valuations, with small reference to limited inspection valuations and AVMs, these trends suggest its content should be reconsidered to meet the needs of valuers and their clients.

The survey provides a snapshot of AVM use, revealing that some RICS members, working within both lending and valuation organisations, are already using AVMs. Despite use being limited to about a quarter of the sample, about 60% have at least some knowledge of them, and a quarter have good or expert knowledge. Those employed by lenders are more likely to have had an opportunity to use them and are far more likely to undertake higher level activities such as AVM policy formation, auditing valuations and monitoring AVM accuracy. RICS members have already informed themselves to some extent about this new tool, despite in many cases having no opportunity to use it. The majority attitude to

**In charts, the key 'lenders' and 'valuers' denote respondents working for lending organisations and valuation organisations respectively*

AVMs is positive: although a quarter of respondents neither want to use them to supplement their valuations nor believe valuers can benefit from using them, they are outnumbered by the 39% who want to use them and 44% who believe valuers can benefit. A third of respondents have an open mind on both these questions, a reasonable stance for those who as yet know little about them. There is clearly a need for more education, with 72% expressing a desire to learn more. Favoured vehicles are publications, local CPD and web based resources. The picture that emerges is of members open to the idea of using AVMs, as a supplement rather than a replacement for their traditional services, and wanting to increase their AVM knowledge.

The responses of this sample of RICS members reflect a widespread confidence in the greater value of their traditional skills: inspection, local market knowledge, and comparable evaluation, compared to AVMs, as well as their professional objectivity. These views were held equally by those with good or expert AVM knowledge and those without. Although those working for lenders also predominantly took this view, they were less likely to do so than those working for valuers, perhaps reflecting the different perspective of service providers and their clients.

There was a widespread perception that borrowers taking out a loan are not sufficiently informed to support their choice of valuation and survey level. This concern did not focus specifically on AVMs, and at present they are used for few if any purchase cases so borrowers are not relying on them to underpin this major investment decision. However, there was, pre-credit-crunch, a trend towards using them for purchases and this may re-emerge in future, involving them in the range of borrowers' valuation options (Downie & Robson, 2007, CML, 2007). Survey respondents identified the difficulty of addressing the wider lack of information on valuation and survey options, since borrowers often choose at point of mortgage sale, advised by a broker or IFA whose interest in closing the deal is at risk from higher survey levels. Responsibility for informing the choice was attributed to all four parties identified: the RICS, lenders, IFA or other vendor at point of sale and solicitors or conveyancers. Lenders were perceived as having most responsibility, apart from the implications of valuers' PII which was seen as the RICS's remit. Differences between report contents and the benefits to borrowers of higher priced surveys were most widely perceived as inadequate. In both cases the RICS and lenders were seen as equally responsible for providing more information.

Overall then, there is strong concern over poor information given to borrowers to help them choose a valuation and survey level. Valuers are very confident that they offer a worthwhile service to lenders and borrowers and are frustrated that borrowers are not well-informed about the services they offer. Both the CML, on behalf of lenders, and the RICS should consider how they might address this issue in the interests of the borrowing public.

In summary the survey raises three main issues:

1. the need for more AVM education and training opportunities for RICS members
2. RICS members are using AVMs and taking responsibility for signing off AVM policy. The Red Book has little relevant content and this should be reconsidered in light of their growing use, as has occurred in other countries.
3. borrowers need good quality accessible information about the range of survey and valuation services available, of which AVMs are a small part

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