



Economic Approach to Valuation



We call the core of our process the Economic Approach to valuation. Most other replacement cost valuation approaches are designed to match parts with parts. However, we look at the entire structure and follow the principle found in any appraiser's book of procedure: To value any item, you need to value the item where the owner of the item "shops." In other words, compare like items to like items, which is also called "comparables." Let us start at the beginning of our journey and explain where e2Value—and its co-founders—began. Then the current insurance situation can come into focus more clearly.



As I write this it is a cold day in January in New Hampshire. Given it is January, it seems right to expect it to be cold rather than warm in New Hampshire. While that is normal for New Hampshire, it is also a very cold day from the border with Mexico all the way to Canada. It's colder in Houston, TX today than it is here in New Hampshire. Maybe that's the "new normal"? In the last few years, the earth has treated the property insurance industry with many "new normals." Year after year of unprecedented catastrophic activity, higher interest rates, and deep losses have many insurers scrambling to restore

profits. We think we know one way to help restore profits. We help every part of the property insurance chain understand the value at risk. This will be my 25th year with e2Value, a company I co-founded with George Moore in 2000. I worked at a large carrier before e2Value. I knew nothing about insurance before working in it and my journey in insurance started because of a total loss to a home.



My Career Path

I've been fortunate (or unfortunate) enough to have a less traditional education and career path. What set me in motion on my career path—and using “career” may be a stretch—was a house fire at a remote summer home.

My path started after I took 2 1/2 years of a “gap year” after one semester at college. By the way, it's easier to leave college when the university makes it pretty clear they'd rather you not attend that college anymore.

Since I wasn't at university, I had to get a job. Due to where I lived, my options were limited. To say I chose a profession indicates some sort of thought. My 19-year-old self was very limited in thinking and career planning. I took what was offered. So I became a “thumper,” as it was explained to me, with a residential construction company. “Thump,” they said, is the noise I'll make when I fall off a roof as most new construction helpers are prone to do. That was my not-very-warm welcome to working for a living.

Today, as a part of the insurance world, it was

fortunate that my first job as a thumper was to help rebuild a summer home that had burned down. That home was one of several at a family compound. An insurance company paid for the client to rebuild their lakeside home. It turned out a few years later I interviewed with a company named Chubb. I had no idea what Chubb, an underwriter, or even insurance was. Having learned interviewing skills at the career center I did, however, research the company before my interview. Turns out one of the board of directors for Chubb was part of the family that had the lakeside homes. Upon hearing that and reviewing my construction background, Chubb moved me from interviewing for underwriting to what was then called the Appraisal Department. An appraiser toured homes, valued them, and offered loss control advice.



The Software Wasn't Working

The appraisal job at Chubb had us interview builders, follow prices of the parts of homes, etc., all with an aim to properly value the homes we toured. Having been a carpenter and a sub-contractor for home builders, it was easy for me to interview builders, and, at least for me, ask the right questions. All that interviewing, understanding the cost of items in a home, and the local building market, then came down to using software that helped standardize our approach to pricing a home to get the “right” value for the policy.

After a number of years trying really hard to value the homes and use the software correctly, we saw each loss outpace the coverage we helped establish. I had a unique opportunity to provide forensic reviews of all the large losses we had and then try to get the software we used to reflect that reality.

After 10 years of that and with my co-founder’s knack with software, we looked at why the software used by 100% of the industry wasn’t working. My partner and I concluded it was the software. Across all lines of business and all companies, agents, etc., the core and only connection was the software everyone used. That work and due diligence led us to formally start e2Value in 2000.

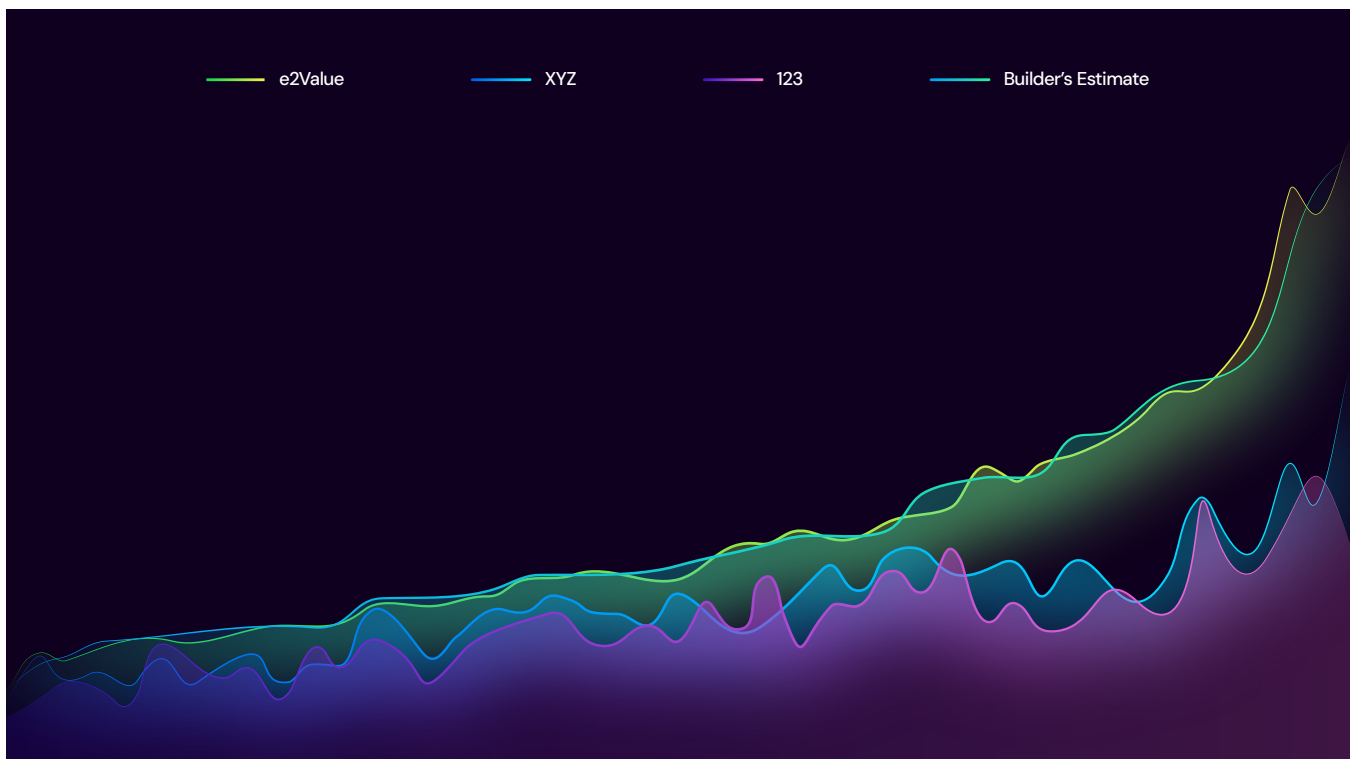
Since then, we’ve been building, watching, adjusting, and publishing values for replacement cost. That means we have the underlying values and predictions versus actuality since 1998. Over that time there have been losses that compared our reported values and trends versus actual values and trends. Over the same time, we’ve seen the actual results from all the players in the industry.



This will be 25 years of effort for me. We have the original test batch slides, which are the 100 homes that launched e2Value. If you take that slide and look at a similar test from 2023, it's alarming at one end

and very good for e2Value on the other end of the spectrum. The difference in software that helped launch e2Value still exists today. How'd we do? I think great.

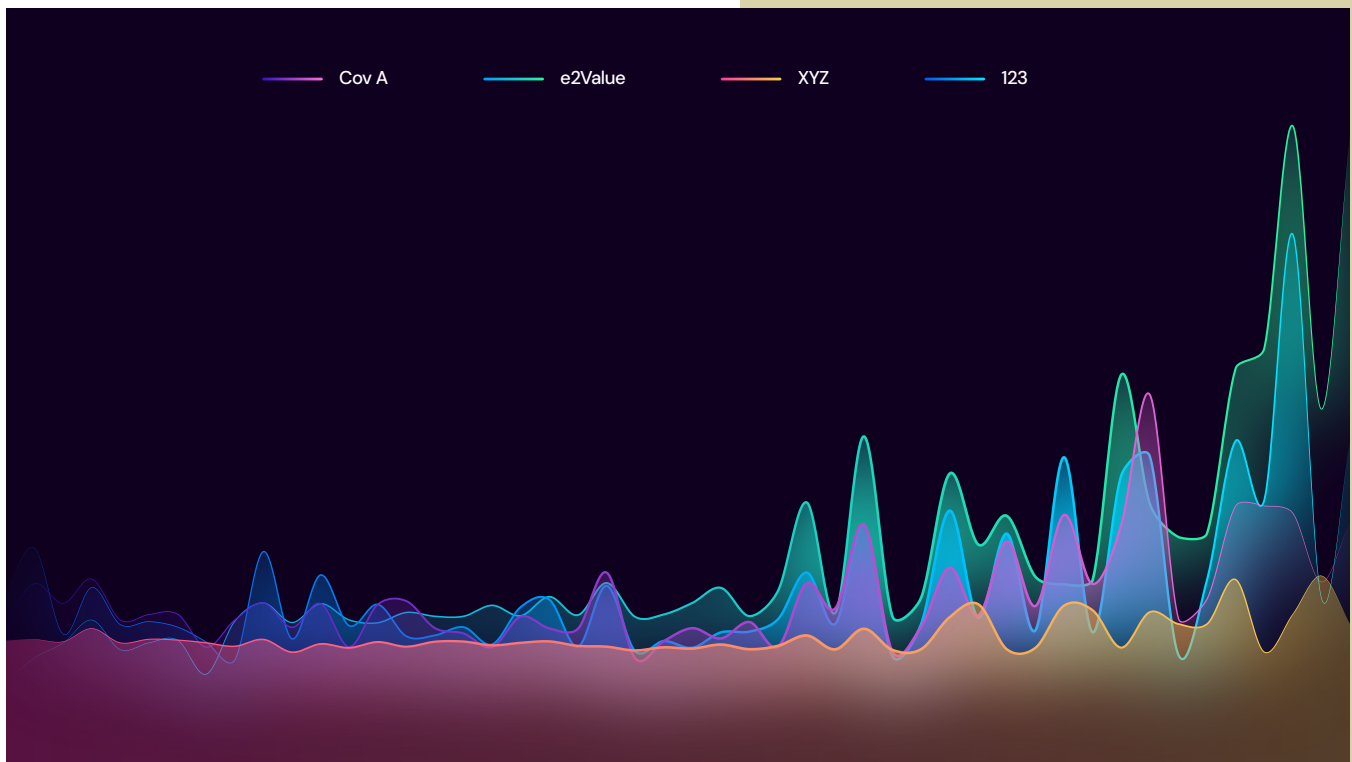
1999



The 1999 chart shows the e2Value approach versus existing software in 1999. As homes increased in value, the difference between e2Value's approach and the widely used tools in the industry grew ever larger.

Here is a similar study from 2023. The difference in the tools is still there as the values increase.

2023

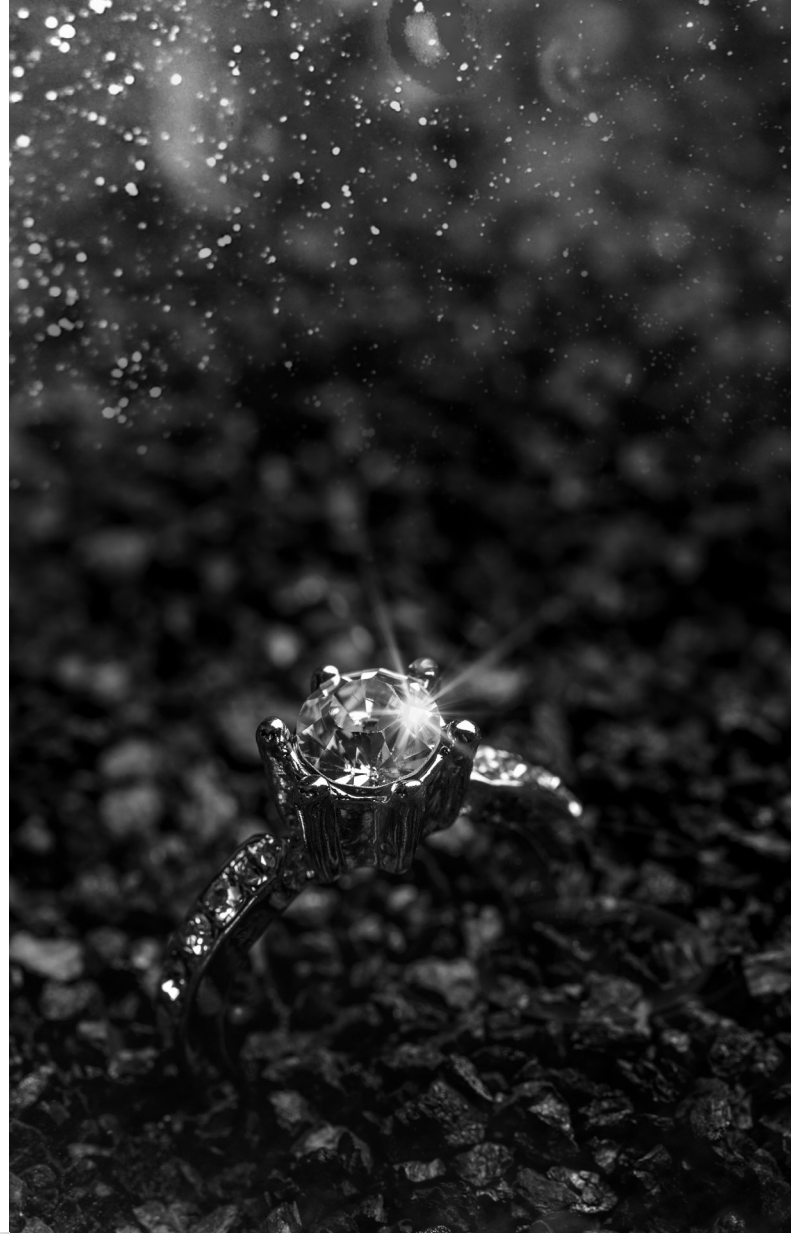


What that means for participants in the insurance market is that a gap has persisted for 24 years. That's 24 years of undervalued exposures. Throw in climate changes, worldwide catastrophic storm growth, and monetary influences. To me it's a miracle the industry results are as good as they are.

The Economic Approach Explained

Why we believe we have a better approach to valuation and why we think the results with users of our software outpace others, is the core of our model.

The core of our process is what we call the Economic Approach to valuation. Our founding principle can be found in any appraiser's book of procedure: To value any item, you need to value the item where the owner of the item "shops." What that means is if valuing a diamond, there are the three Cs of Cut, Clarity, and Carat. If you've shopped for a diamond, there is also a "W": Where. A good appraiser will monitor the three Cs but will also need to establish where the diamond owner shops for diamonds.



There are many mass-market jewelry stores such as Jared® and Zales®, to name a few, and some high-end market names like Tiffany & Co. and Harry Winston. The same three Cs apply at Jared or Zales as in Tiffany & Co.® or Harry Winston. They all sell rated diamonds. At the same rating shouldn't it have the same value? It doesn't. Tiffany and Harry Winston have one type of brand, Jared and Zales another. Consumers pay for the brand. The same rated diamond purchased from Harry Winston will be much more expensive than one purchased at Zales.

This concept works with diamonds as well as everyday items like a polo shirt or milk. You can buy a polo shirt at Walmart for \$12.00 or at a pro shop, let's say at Augusta Country Club, for \$180.00. To be fair the two shirts do vary in cloth and quality of workmanship. The question is, is one worth 15 times the price of the other? It is the same with milk. I can buy a gallon of USDA whole milk for \$2.65 at my local Walmart® but my local upscale grocer sells organic milk for \$16.00 a gallon. The USDA rates every type of milk sold in the USA. Whole milk is whole milk in that rating otherwise it can't be called whole milk.

As an appraiser, the point is not to say what is better or what is more economical. The job is to find out where the person shops and then value the items based on the store.

Let's say you sold parametric milk insurance. If the power goes out and the milk spoils, you get a deposit equal to a gallon of milk in your account. Make it a polo shirt parametric payment, or any other item, car, house, commercial building. The concept is the same.

If you shop at Walmart for milk, your parametric policy should reflect a rate and payment of \$2.65 for a gallon. If you shop at the upscale shop, \$16.00, and the same for the polo shirts and so on.



From what we've seen, many valuation experts in insurance average values. (Or even worse, use the dreaded "minimum value.") If you apply the average value philosophy to diamonds, milk, or polo shirts, everyone is upset. If you rate a \$2.65 milk or \$12.00 polo shirt but pay \$16.00 or \$180.00, you'll lose lots of money. If you rate for \$16.00 milk or \$180.00 shirts, but pay \$2.65 or \$12.00, you may not have many clients, especially after the claim is paid. In order for the system to work, like has to be matched with like. Such a system would work well by matching Walmart milk buyers to one rate and payout and high-end milk buyers to another rate and payout.



These examples may seem obvious. Yet, industry results and practice will tell you it is not obvious and most carriers, MGAs, MGUs, Wholesalers, etc., tell you there is little correlation between what is insured and rated, and what is actually being covered.

Many folks have told me there's no comparison between a home or a commercial building to gallon of milk or a polo shirt. To which I say, "Since when?" Is there not a Harrod's or a Mercedes? Is there not an Aldi or Hyundai? Isn't there a London and a Birmingham or a New York and a Biloxi? Like it or not, like gravity, economics apply to everyone, every market, and everything that is bought, leased or sold.

Economic principles apply to structures, as well, just like gravity applies to everyone. Literally, every market value appraisal for any land, structure, real estate transaction, etc. shows a list of comparable sales. That's the appraiser doing his or her job. They are comparing like kind and quality, like features, like neighborhoods, like rent, etc. The point is to compare like items to like items, not unlike items. The value has to be defensible in court. Averaging values won't cut it.

That is exactly the principle with the milk, shirt and car examples. That means banks lend, speculators buy or sell, and real estate investors build portfolios on the principle of like kind and quality. Therefore, the financial system we all live by is based on matching like with like.

That's the same approach e2Value invented and patented for replacement cost valuation. Afterall, who are we to fight the world? Most other replacement cost valuation approaches match parts with parts. We hear the trite saying since claims are paid based on the parts-are-parts methodology, structures need to be valued with the same methodology.

Except, total claims are not paid with that methodology. Auto claims are not paid that way. Fine art or jewelry losses are not paid that way. Liability claims are not paid that way. Even partial loss claims on structures and autos take into account the market for the item.

Partial claims are based on a damaged item. The damage needs to be removed, replaced, and blended. A fender bender can be a minor issue or a big issue. The fender, the underlying supports, the trim, the paint, etc., all have to be repaired and matched to the rest of the car and not diminish the value of the car. That's the same with a kitchen, bath, water, smoke, or fire damage, etc. in a structure. The partial claim is a piece or pieces, plus labor (or labour), to replace the piece, overhead, and profit. After a certain point of damage, a calculation is made that if the repair costs more than the item's value, the item is usually replaced.

Due to the nature of the asset, there are differences between homes and autos. Automobiles depreciate. Homes appreciate. A partially damaged auto can be parted out and resold. A partially damaged home isn't.

Typically, an auto owner would want the same fit, finish and quality for the repair to match the rest of the car. A Mercedes owner will want Mercedes parts, a Ford owner, Ford parts. That is the same with partial home losses. The repair needs to match the existing level of materials and quality that was there before the loss.

However, a total auto loss is different. Provided the insured meets all the policy conditions a check gets cut for policy limits in an auto claim. The policy owner gets any non-financed proceeds. That person can go buy any automobile they like. There is no contractual condition to replace a 2021 Audi Q5 with a 2021 Audi Q5. In fact, the car doesn't have to be replaced at all.

With a home, things typically are more complicated because the policies are more complex. There are policy limits, extended coverages, Actual Cash Value payouts until the home is rebuilt, and other factors. For many total home claims, however, the owner gets all the proceeds after the financing is satisfied, if any is involved, and then they are on their own. At that point they may rebuild the structure, sell the land, etc.

The rub seems to come in structure losses when the policy limit is disconnected from the actual replacement cost value of the structure. In the USA the onus for the proper coverage, under current law, is on the policy owner. Some carriers, in mostly non-CAT prone areas—which is getting to be a smaller list each year—offer a form of extended coverage from 125% to 150% of Coverage A to unlimited – Coverage A becomes irrelevant. The crux of the settlement is the home needs to be rebuilt to satisfy most ERC extensions. If the value is very different from coverage to the actual cost to replace, the policyholder loses. The carrier lost, too. The rate and amount of premiums collected were disjointed from the actual exposure. Further, maybe the carrier would not have entertained the risk had they known the bona fide values before issuing the policy. It could have been above their underwriting guidelines.



A home or commercial structure loss is also different than an auto claim in regard to time from loss to settlement and replacement of the item. A total auto loss can be settled within weeks of the accident, including replacing the car.

On the other hand, it is probably at least three years from the date of the loss to the start of the rebuilding of a structure, and five to eight plus for catastrophic losses. From Paradise, CA to Lahaina, HI most folks will not rebuild. The homeowner will need to move since it is hard to live in a temporary situation for years while claims are settled and the rebuilding gets started. Between school enrollments for children, work requirements and other considerations homeowners often move. Commercial buildings can take up to 10 years to be rebuilt. Most businesses will relocate as soon as possible since most companies need the revenues sooner than later.

Returning to the topics of diamonds, milk and shirts, if we may, shoppers may also wait for sales. Shirts and diamonds are not necessarily needed right away. Shelter and businesses suffering a large loss don't usually have the luxury of time to wait for a sale.

Few Home or Business Owners Know Rebuilding Costs

The other side of this is people are likely to be aware of what a shirt, diamond, or gallon of milk costs. With real property, they may be well aware of the price paid for a property or what the tax authority values the property for, but few are aware of what rebuilding market they are a part of. Few started out as carpenters, spend time talking to builders, or study construction data like we do.

Unless you recently had a home or commercial structure custom built, there is typically a disconnect between market values and rebuilding costs. Economic conditions, building activity, the price of oil, the employment market, and more influence replacement costs.



Ultimately, we believe the replacement cost will be expressed as a total value. The builder may break things down to a trade-by-trade price list, but few do a piece by piece, hour by hour price list. Think of an auto. The fender bender is detailed for each little part. The kitchen or bath loss, the same. With the total loss of an auto, the fender price is removed. The kitchen is part of a home, as in a consideration, but it's not Legos®. You can't buy a kitchen, a bath, maybe a floor joist, then a roof shingle when buying a home. Any more than buying a car one tire or fender at a time. The whole item is bought, not parts.



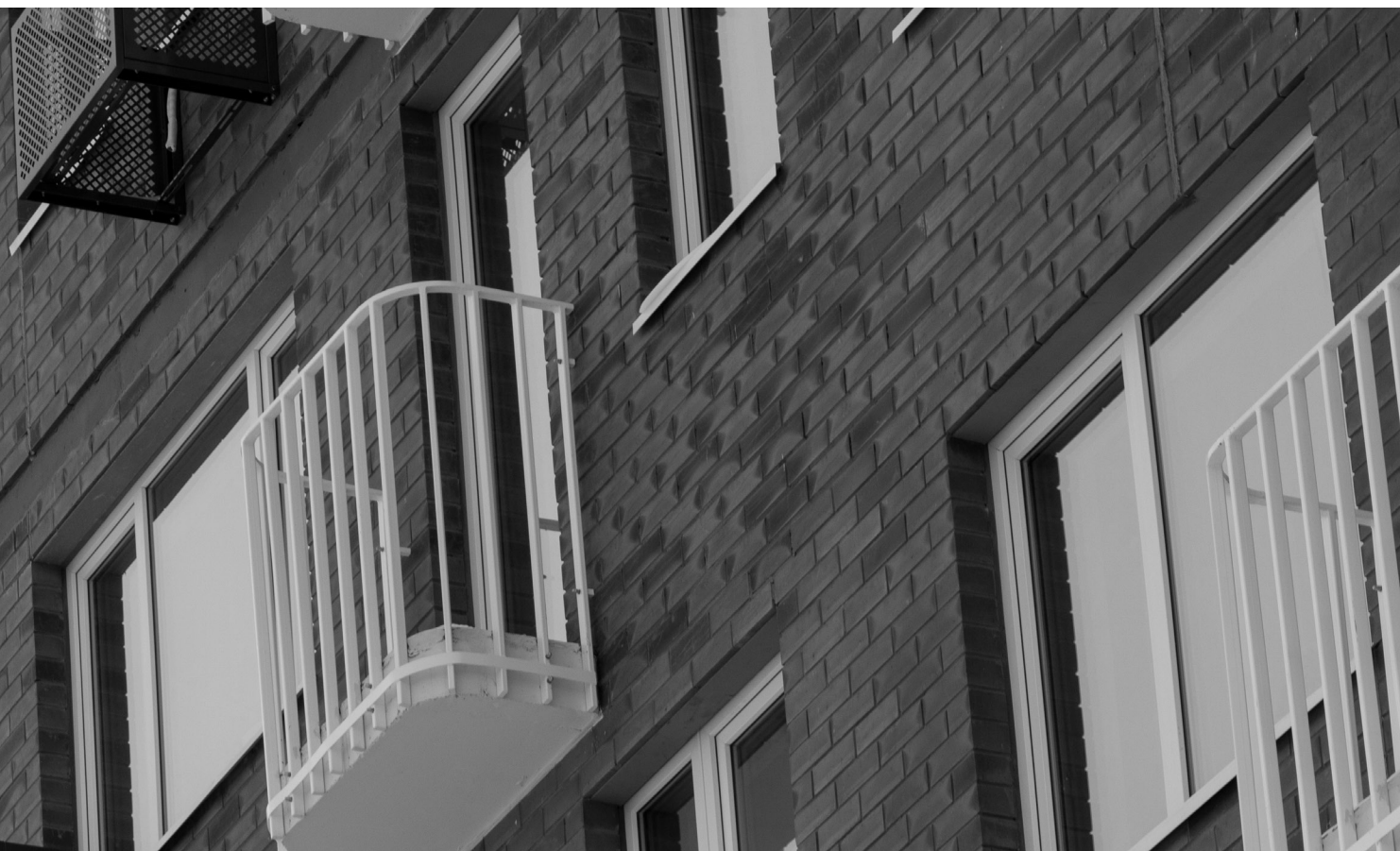
The trick with the e2Value approach is to be sure you understand the markets. Notable figures like Martha Stewart and Ralph Lauren use notable builders. A new builder just starting out won't build a multi-million-dollar home, especially for Martha Stewart. The builders that build multi-million-dollar homes won't build starter homes. Multi-state home builders don't rebuild singular homes.

Commercial builders tend to specialize, as well. Big office projects go to one set of builders. Shopping malls others. Walmart, Home Depot® and similar projects are not built by just anyone. You can lose lots of money as a commercial builder if you don't know the market you are in.

A seldom considered item is that the price of the items in homes and commercial structures fluctuate pretty routinely and are very hard to stockpile. Let's look at one item that almost every project needs, sheetrock. Sheetrock is used in commercial and residential construction alike. In theory you get

discounts for buying more of an item over just a few items. Most building materials are fungible, though. Lowes®, Menards®, and Home Depot buy far more sheetrock than any builder can. Sheetrock is easily damaged in transit and/or storage, can't get wet, is really heavy, and doesn't age well. Even a 20,000 square foot home, that has lots of sheetrock in it, pales in comparison to how much sheetrock any Lowes or Menards will buy. Even a 100-story tower can't compete with a building supply network. Look at any tall building and you'll see it is built floor by floor, lower to upper. The worst place to buy and store sheetrock is on a commercial project. Therefore, they don't. You can't. The tower does get some economies of scale, but even a 100-story tower can't compete for scale with large building supply stores.

From a 1,500 sq. ft. starter home to a 10,000 sq. ft. dream home to a strip mall or condominium tower all require sophisticated Just-In-Time project, process and supply management. A partial loss needs some supply management but nowhere near to the scale of a complete loss.



The skill of project management is essentially what home or commercial clients are buying. The more things to coordinate, the more you need to pay. There is a direct correlation between the amount of coordination of a project and the financial health of the builder. The better the financial health, the more the builder will be paid versus less financially healthy builders.

The building process can be as small a market as one home or one building or as big as hundreds of homes or tens of apartment buildings. We spend much of our time grouping like things and analyzing similar and different ones as we do asking how much an item is. Just like the milk and the shirts, like goes with like. It's like the saying from Sesame Street®, "One of these things is not like the other, one of these things doesn't belong."

In the milk example, it seems obvious you can't average Walmart and high-end grocery store milk together. We'd argue it isn't obvious. Looking at industry results, I'd bet only e2Value separates and doesn't average. Why do I think that? If it was obvious, we wouldn't be very different than the rest of the valuation industry. It's also not easy. We are different and proudly so.

Supply and Demand Pricing

Ultimately, why we go with the Economic Goods method is that piecemeal pricing is usually thrown out the window regardless of current economic conditions. As an example, any new structure needs a certificate of occupancy (CO). Typically, all final payments follow the CO. Loans are closed, transferred from building loans to mortgages, people may move in, etc. All of that only happens with a CO.

Bathrooms, water, electrical issues are major contributors to delayed COs. Those are key parts of a CO. Picture a \$500,000 home. The final item for a CO is that one bathroom sink needs to be installed. If you consult a price by piece and labor chart, a sink is \$500.00, and the labor is two hours at \$100.00 per hour. Total cost as per the claims' formula, piece, labor, overhead, and profit is \$840.00.

However, you need a plumber to physically show up and install the sink. If the plumber has X number of jobs in line before the sink, the CO will wait. The builder, the owner, the bank, all need the sink installed—now. How do you get the plumber to the home before the rest of the jobs in their queue? Maybe you say, "I'll pay you \$1,500 to get here and install the sink." A builder will typically make 10% profit. Quick math means that's \$50,000 held up until the sink is installed. Heck, they can go higher. Maybe it's \$2,000 to incentivize the plumber? The piece by piece and hour by hour price is not relevant.

We believe there is no place to plunk economic conditions that impact us all in a piece, labor, overhead and profit model for total losses. Further, it's hard to do in a fluctuating market.

Looking over the last few years catastrophic losses have outpaced most valuation models. The recovery from COVID outpaced most supply chain and price gauges. If you look at our charts, the economic trend can be tracked. It can be planned for. It can be adjusted to swings in the economy. In reality the differences in the models have existed for all these years and the delta between the two approaches hasn't changed. COVID accelerated the price fluctuations that piece-by-piece methodologies could not keep up with.

I can assure you, when I was a carpenter, my pricing power changed with the seasons. I moved on from working for a builder and I became my own company. We were laid off every winter and I needed to survive. I ended up sub-contracting to the original builder where I was hired as well as to other builders. That means to eat I needed to work. When it was 0 degrees F and I needed to eat, and no builder was busy, I still shingled the roof I was hired to, regardless of the temperature. Because everyone got laid off in the winter months; it wasn't just me. I not only had to work outside when it was very, very cold, but for less money than in the summer when everyone was busy. Economics reached out and impacted me way far away on the coast of Maine. Economics impact every market, especially insurance markets.

The economics, the markets we live in, and the world have changed a great deal in just a few short years. Toss in record setting catastrophes, higher costs of capital, and no wonder California and Florida have issues in the insurance market.

At least for insurance valuation, we don't think it has to be that hard. The good news for me is, I never "thumped." I stayed upright on the roofs and scaffolding. Oh, I hurt myself, sore thumbs, a back that hurts to this day, fell off a few ladders, found a few wasp nests, but I still have all my fingers, and only broke my bones years later while skiing.

The good news for our clients is George and I did end up in insurance and learned all about valuation, loss control, agents and brokers, claims, clients, and how vital insurance is. Also, how vital a well-financed, well managed insurance market is critical to the world economy. We are proud of our contribution and would love to show how our methodology can help you weather the weather.

Please look for our economic insights throughout the year.



Todd Rissel
Co-Founder, CEO
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<https://e2value.com>