

Argus Developer in Practice

Real Estate Development
Modeling in the Real World

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Contents

About the Authorix
Acknowledgmentsxi
Prefacexiii
Chapter 1: Appraisals: An Overview	1
Chapter 2: An Overview of Argus Developer	13
Chapter 3: Argus Developer: Advanced Features	35
Chapter 4: Commercial Feasibility Studies	53
Chapter 5: Residential Feasibility Studies	133
Chapter 6: More Complex Projects	163
Chapter 7: Modeling Project Finance	177
Chapter 8: Understanding and Modeling Risk in Feasibility Studies ..	211
Chapter 9: Wrap-up	225
Index	237

Appraisals: An Overview

Development Appraisals and Financial Feasibility Studies in the Development Process

Before we get into the ins and outs of Argus Developer and how to use it effectively, let's take a step back and understand the goals it is meant to help us achieve.

Why Do Appraisals?

Although this is not meant as a development textbook but one that concentrates on modeling using the industry's main software tool, it is useful to set the context and establish the roles development appraisal, sometimes known as financial feasibility studies, have in the development process.

Financial feasibility studies are also known as development appraisals. They involve the gathering together of all the information on costs and values of a project. This information is incorporated into a framework and used to determine the answer to some key questions. Development appraisal is one of the key aspects of assessing the viability of a development project. It is, however, used throughout the development process to fulfill a number of key tasks.

■ **Note** Development appraisals, also known as financial feasibility studies, are used in part to determine the value of a piece of property based on what you want to do with it.

Primarily, appraisals are used to determine the bidding price for a piece of land. This can be difficult because a piece of development land has no intrinsic or set value; it only has a value derived from the use it can be put to. The value is determined by the market and restrained by the planning and/or building restrictions on the site.

Every scheme proposed for a site—residential housing, hotel, retail, and so on—will generate different values. If a piece of development land has been fully exposed to the market, then a range of appraisals based on different schemes will be made on the site by different prospective developers. The landowner will generally sell to the developer who submits the highest viable bid. Thus, the financial appraisal is a key component in determining the highest bid a potential developer can make while still meeting the target return for the project.

The second major use of appraisal in the development process is to determine the profit or loss the scheme will make. This is vitally important because it shows the developer whether the plan is viable or not. Appraisals can also be used to explore the impact of different variations in the project. These variations might concern design, the use or use mix that the site can support, or the different timing of elements in the project. They can also be used to determine peak profitability—that is, when it might be advantageous to sell.

The financial feasibility study will also be used by commercial lenders to determine whether they will lend you money to carry out your plans.

Commercial lenders will look at the financial appraisal very carefully before advancing any funds. In essence they look at two things:

1. **Assumptions.** Lenders check to see whether the assumptions relating to the development values are sound. Lenders will carefully examine all of the components of the completed project. They will look at the rental values and the yields that have been projected by the developer for realism. They will also scrutinize the selling or leasing program to determine whether goals can be achieved. Then they will examine the construction costs and all the other elements of the project. The appraisal lays these factors completely open to scrutiny. In short, the developer and lenders will use the development appraisal to prove whether the assumptions in the development project are based on sound projections.

- 2. Profit margin.** If the financiers are satisfied with these factors, they will then look closely at the profit margin on the project by the appraisal. The financiers want to be satisfied that the developer will achieve a sufficient profit margin. It may surprise some that the financiers are interested in the developer's profit, but the lenders are primarily concerned about the developer's financial stability. The profit margin reflects the risk margin on development. Basically, the larger the profit margin is, the less risk the lender will assume by advancing funds on the scheme.

There are no set margins as to what lenders will look for in terms of returns. The normal rules of thumb call for a 20% profit margin on costs for speculative commercial schemes, 10% to 20% returns on cost for commercial projects with leasing precommitments, and 10% to 15% on residential projects.

■ **Note** Lenders do not look for set profit margins on real estate development projects. Typical returns range from 10% to 20% based on the type of development.

These are the primary initial uses of development feasibility. There are other uses as well. As noted above, developers will explore the effects of altering, reworking, and changing the timings in the scheme. Projects often require rethinking during the project lifetime. This may involve changing the mix of property that will be developed to suit market requirements. The appraisal will be used to see what the effect of these changes is on developer profitability. Above all, the baseline appraisal allows you to explore all the options and assess the greatest possible profit on the development you are considering.

Common Appraisal Elements

The process of development analysis involves many disciplines of knowledge, including structural and services engineering, architecture, project planning and management, marketing, and urban economics. The feasibility report should communicate the facts, assumptions, figures, and recommendations gained during the analysis process. The person preparing this report does not need to have direct knowledge of all details required, but he or she should at least understand the impact of each critical factor and how and where this information can be accurately determined. This process of information management requires investigative skills, mathematical application of data, and intuitive thought.

In short, anyone setting out to do a development appraisal in today's world will not be able to use traditional approaches using a simplified manual calculation. You will need a sophisticated spreadsheet (and the skills to go with it) or a proprietary software system such as Argus Developer.

The process of carrying out the full feasibility study is beyond the scope of this book. But before we look at models in Argus Developer in detail, it is important to reflect on the basics of development appraisal.

The basic equations for a development appraisal are simple. To calculate development land value (or rather a land bid), the following equation is used:

Value of the buildings on completion

Minus:

**The development costs (construction, all fees, all ancillary costs,
and all the costs of finance)**

Less: An allowance for developer's profit

Equals

Land Value (maximum sum available to buy land)

An alternative equation is used when developers know their likely input costs for land and construction and want to discover whether the scheme is viable—in other words, whether it produces sufficient profit for them to proceed:

Value of the buildings on completion

Less:

**The development costs (construction, all fees, all ancillary costs,
and all the costs of finance)**

Less:

Land cost (including fees)

Equals

Development Profitability

Note that the appraisal is always looking to solve for the unknown element in the equation, either land value or profitability. All of the elements mentioned in the formula will have to be established or estimated.

This is breaking feasibility studies down to their very basic components. If things were as simple as this in practice, we wouldn't need expensive software models! The complexity in appraisal comes from the sheer number of components involved—ensuring that everything has been accounted for, calculating the all the components' correct values, and allowing for when these items will take place, which in itself will have an impact on their values. This process is further complicated by the fact that everything occurs in the future with the developer/appraiser often dealing with a scheme that exists only in outline.

■ **Note** Keep in mind that a development appraisal is always no more than a forecast of a series of future, uncertain events.

Appraisal Challenges

I used to run a master's program in real estate development at one of the top universities in the UK. We had a weekly guest lecture spot for people from industry, and one of my favorite speakers was a grizzled 30-year veteran of commercial real estate. He frequently used the same phrase over and over again: "Development is not rocket science."

He was, of course, absolutely right. The fundamentals of real estate development, as we saw in the last section, are very simple: Build something that you can sell for more than it costs you and bank the profit. The components of building are themselves simple; we have been doing it for thousands upon thousands of years. Bring a Roman surveyor or craftsman back from the past and put him on a modern construction site and, after a little acclimatization, he would soon be very much at home. We have some sophisticated tools now that make our lives easier but, fundamentally, things have not changed that much.

The developer was also slightly wrong. Although fundamentally simple, the process of modeling is complex. As noted above, not only do you need to account for everything required to complete a project, but you also have to put the components into the correct time framework. Although some time elements are predictable, key components, including the critical ones of when something will sell or lease, are very uncertain. The models have to incorporate often-sophisticated assumptions about financing, how money flows in and out of the scheme from a variety of sources, and how to apply differing cost, drawdown, and repayment possibilities. To complicate things further, these timing assumptions may need to change either prior to the project starting or, often, during it, as circumstances change.

An appraisal model has to take these things and many more into account.

An obvious question that must be asked at this point is the following: Why use a proprietary software system such as Developer and not a self-constructed Excel spreadsheet? Excel is, after all, a wonderfully flexible and powerful tool that can and is used globally for complex tasks—and, in fact, is used in rocket science! So, why not use it here?

I used to be a strong proponent of Excel spreadsheets, frequently using and creating them, and applying them widely in both practice and in the classroom. I am now more wary of them, even though they are still probably the most widely used tool in the industry. In early 2012, I found myself embroiled in a debate on an Internet real estate discussion site about the merits of proprietary software vs. Excel.

I came across the site accidentally while checking a reference. I was interested in the debate that had clearly been going backward and forward for some weeks and, always enjoying an argument, decided I would join in. Having been heavily involved in this area for a dozen years or so and having originally been a great advocate of Excel, I found it odd to be on the other side of the fence arguing with the site owner. He did make some excellent points, some of which I quote here:

I have a good friend who is an engineer for a leading aerospace-component design and manufacturing facility here in southern California. They produce nacelles mostly, but that's beside the point. Their parts are used by both Boeing and Airbus. Their work requires modeling the physics acting on their parts, and extensive and sophisticated testing is required by regulators and for simply quality control purposes. What do they use? Microsoft Excel with Visual Basic. The planes you and I ride in were in part designed and tested with Excel.

I have a colleague who works on Wall Street creating and trading financial derivatives for a leading investment bank. His whole firm (and industry) use Excel. Why? Because of its power and breadth and because they—like every other MBA from a top university—used Excel for their finance and statistics classes. All the leading texts (particularly Bodie/Kane/Marcus) in finance go through examples in Excel. And this isn't simple discounting we're talking about but CAPM, linear regression, options pricing, and so on. Excel is the standard.

As much as I like to think that real estate analysis and valuation demands brilliance and a firm grasp of complicated and arcane mathematics/statistics (and good looks to boot!), it simply doesn't. Beyond logic (if this, then this . . .) and high school math (but not even as advanced as calculus), commercial real estate analysis requires only an understanding of Present Value (mathematically speaking). The modeling we do for real estate is child's play compared to the capabilities of Excel, as evidenced by its much more rigorous applications.¹

¹Landon M. Scott <http://incomepropertyanalytics.com/alternative-to-argus/#comment-896>. Accessed 7th May 2012, reprinted with permission.

These are very good and valid points. It is natural, then, to apply Excel to property development. It looks like the ideal tool for the job and, indeed, many practitioners pride themselves on their Excel abilities and the sophistication of the models they use.

But I no longer would use it and the reason simply comes down to the risks of error involved and the high stakes involved. Real estate development is a high-stakes poker game; you can win a lot, but you can also lose huge amounts. That is a huge part of the appeal. However, there are enough risks involved with the sector in general without adding to it elements of risk that come from using self-constructed models.

These errors can arise from a whole host of sources:

1. *Errors due to time pressure.* Many workplaces are high-pressure environments, with appraisers having to do complex work within a short time frame.
2. *Failure to properly audit the spreadsheet.* Auditing can eliminate errors from the spreadsheet, but each time you create a spreadsheet item or make a change to a spreadsheet model requires you to follow an audit trail. That costs you time. Standardized models such as Argus Developer do not need the same audit and, therefore, save you considerable time in checking the mechanics of the calculations.
3. *Incorrect modification of an existing spreadsheet model (and a presumed failure to audit).* This is a common set of circumstances. Development projects are not static; there are always many changes from the initial appraisal, where many assumptions have to be made, up to the final appraisal immediately prior to commencing work on-site.
4. *Application of an existing model to new development projects.* It is a natural thing when considerable time effort has been invested in the creation of a spreadsheet model to spread the cost (and save time) by applying and adapting the model for different projects. This not only opens up the possibility of modification errors as in number 3 above, but also in the perpetuation of errors from earlier projects. That's because people will assume that the applied model will have been audited and is error-free on the earlier projects.

So, in summary, the challenges of doing a development feasibility study is producing a reasonable and logical forecast of expenditure (money out) and

receipts (money in) within an uncertain time structure. This is hard enough in itself, but adding in the additional uncertainty of a self-produced cash flow model with the extra time needed to create and continuously audit it is an unnecessary complication. That's why a program like Argus Developer will make your life much easier.

Appraisals vs. Feasibility Studies

You will notice that I have already used the terms *appraisal* and *feasibility studies* in this chapter. Using both terms reflects what happens in practice; the terms are used interchangeably throughout the industry, particularly now that cross-border, international development has become more common.

Strictly speaking, however, the terms are different. An appraisal in real estate is a formal statement of value produced by a professionally qualified person. A development feasibility study, strictly, is just what the name implies—an exploration of “what-ifs” to see if a development project is viable. Language, however, is not static; it changes. People can be doing what they term a development appraisal while others are performing a development feasibility study and yet others are producing a development financial model, but, in fact, they are all doing the same thing.

This partly relates to the fact that these development models are used for such a range of tasks. The outcome can be used to value a site or parcel of land, either to determine a bid price or as part of a formal appraisal. The same set of calculations can be used in a slightly different way to determine whether a project should go ahead at all or to explore different layouts, designs, or production schedules. They are the same thing, they are constructed in the same way, and they are based on the same assumptions.

“A rose by any other name is still a rose,” to paraphrase a far better writer than I!

■ **Note** In this book, the terms *appraisal* and *feasibility study* are used interchangeably.

Development in the 21st Century

Property development as an activity has seen considerable changes over the last 25–30 years, and these changes have had an impact on appraisal practice and techniques. Although this book is going to concentrate primarily on the techniques and tools available to the appraiser, I feel it is important to understand the context in which they are used.

Development has become broader both in its scope and in the type of people who are involved with it. With the encouragement of TV lifestyle and make-over shows, the easier availability of finance (up until the credit crunch of 2008 at least), more and more people have been carrying out forms of development. A common model is the purchase of a run-down house or flat, spending a few weeks remodeling, refitting, and redecorating it, and then either holding onto it and renting it or selling it. As a result, people of very different backgrounds have been brought into the development and investment industry, which has been, until now, dominated by builders and professionals.

Many of these new “developers” do not carry out detailed appraisals even though they perhaps should. The earliest such developers were protected in many respects by the almost continuous rise in house prices that was only arrested by the credit crunch and severe economic downturn of 2008. Until this time, it was actually quite hard not to make money out of developing property. The new, more difficult market may require these developers to take more care in assessing development projects. It seems increasingly likely that they will turn to more professional approaches, which will include the use of proprietary software.

What has made the issue more complex has been the urban regeneration movement and the increase in fashion of urban living.

Having spent most of the 20th century seeing wealth and population migrating to the suburbs and fringes of the urban areas, the last decade of the 20th century and the early ones of the 21st have seen a sharp reversal of this trend. Partly this is due to investment in the urban environment, thus improving it greatly. Other factors include fashion, the development of late-night/early-morning entertainment in city centers, increased wealth, and an increasing interest in buy-to-let investment opportunities from private investors. In addition, the rise in energy and transportation costs has made living closer to work more attractive. This latter trend seems likely to strengthen in the coming decades; the days of cheap energy and transportation seem to have gone.

Whatever the case may be, this trend means that development models have had to be able to deal with the special requirements of residential development in established city areas. These include staggered starts and completions, deposits, buying off plans,² and complex disposal patterns as well as technical issues involved in the refurbishment of older structures often with restrictions on space and working time, all of which have to be modeled. These components are uncommon in commercial projects and this has had quite

²“Buying off plan” refers to customers agreeing to buy real estate at the design/planning stage before it is actually physically built. People do it to get in at a lower price on a project that is forecast to be extremely popular. It’s a high-risk strategy—it was done a lot in countries like Dubai, where many of the developers subsequently went bust and the projects were never built.

major implication for practitioners in the field. Most development appraisal books (and sections in books dealing with development appraisal) from earlier times have concentrated on commercial development, for this was where the bulk of the work was for professionals. Now the picture is very different and advisers must be able to model all types of projects.

Development and development appraisal has also shifted from being a local concern to an international activity. Of course, development has always taken place in every country in the world, but generally development used to be a primarily local activity carried out by local contractors and developers. Now, increasingly, with cross-border investment and the rise of international advisers and professionals, many developers, surveyors, and development specialists are working across borders in many different countries. The methods and models used must, therefore, have applicability in many countries.

Development projects have also seemed to get much more complex. I say “have seemed to” because this may be an illusion; developments have always involved complexity—it is just that our ability to model them has become much greater in the last 20–30 years with the advent of computers, spreadsheets, and development appraisal software. One area, though, has become ever more sophisticated and complex: financing.

In the 1970s and 1980s, the years when the majority of development appraisal texts were written, the vast majority of appraisals would have been undertaken using valuation tables, perhaps aided by pocket calculators. To carry out the appraisals in a reasonable time frame, the calculations had to be simplified (and also, therefore, made less accurate). This is why the residual appraisal technique (described more fully below) came to be so entrenched in the profession; it is nothing more than a simplified cash flow used to ease the burden of calculation. Once established, it has been hard to shift. Today, however, we are in an era where the tools that are available to us have become infinitely more powerful and our understanding of the modeling process has been greatly increased.

I think it is important to appreciate all of these trends and the impact they have had on the appraisal calculation process. The market has become wider, more complex, more international, and less parochial. The days of doing manual calculations using valuation tables are gone. The trends have pushed us toward cash flow models that are constructed on computers. This implies that most appraisals today should be conducted using cash flow models generated on self-constructed templates using a spreadsheet such as Excel or Open Office Calc, or else using one of the commercial development appraisal packages such as Argus Developer or Estate Master DF, which use the cash flow as the primary calculation tool.

New Tools, Old Methods

You will note I say *cash flow models* and not *automated residual calculations*, something which, of course, is an easy approach to computerizing appraisals and producing quick calculations. The reason I say this is that, as noted above, residuals are just simplified cash flows and the simplification has the effect of reducing accuracy.

I feel that this point requires stressing further. It used to be the thinking that each approach—the residual and the cash flow—had a role in the development process.

The residual allowed a quick appraisal to be made, and it allowed the viability of a scheme to be checked in a relatively short time. It was felt that cash flows were only worth the effort when the details of the schemes were known. Cash flows were, therefore, to be used for the final, detailed appraisal and as a project management tool. I believe this rule, with the modern tools available to the development professional, is now obsolete. We can produce cash flow analyses much more easily; reasonable general assumptions can be made about any details of the scheme that are not known at the time of the appraisal, and the results will always be more accurate than taking a residual approach.

This does not mean that residual/pro forma models and layout should never be used. In fact, they have distinct advantages in summarizing the project—the data is presented in a way that is much easier for people to interpret than in a cash flow. It is no coincidence that most proprietary software, including Argus Developer, has an output that is laid out in the traditional residual format. The primary calculation tool is, however, the cash flow.

It is perhaps slightly archaic that the layout should be used even when the underlying calculation is done differently than the residual/pro forma method. Humans like things that are familiar, the qwerty keyboard being a case in point. We all use the layout on our electronic devices and would feel lost if we were presented with something different, yet the qwerty keyboard arose in the days of mechanical typewriters as a solution to allow rapid typing while minimizing the risk of the typewriter's arms bearing the letters to the ribbon clashing with one another! There are no mechanical parts anymore, there is no ribbon, and the typewriter is virtually extinct, yet the qwerty layout survives because it is familiar, and we understand it laid out in that way. Exactly the same is true of the pro forma; it may not be how we calculate things, but everything we need and expect to see about the development project is there in the usual places.

New Tools, New Methods

What we have covered to this point shows that, although fundamentally simple, real estate development projects have become complex. The combination of the need to set out uncertain future events in a logical framework, the cash

flow, with the need to model often sophisticated financing arrangements—added to the fact that these models are often dynamic, requiring changing and restructuring at regular intervals—means that the tools used to appraise these projects must also be powerful, sophisticated, and flexible.

This then rules out the old-fashioned static pro forma model and pushes the appraiser towards a dynamic cash flow model. These can (and are) constructed in Excel or other spreadsheet applications, but there are inherent drawbacks and risks involved with their use related to the nature of real estate development.

First, although all development projects share common features, each project tends to be distinct, a one-off. This means that either a new Excel model has to be constructed from scratch for each new practice, or an existing one has to be adapted. The former is very time-consuming; the latter risks introducing errors.

Second, most development projects take place over several years. Elements will change; this will require both alteration of the model and maintenance of existing models as benchmarks. Again this will necessitate changes to be made to the existing model, which may be time-consuming and may risk error.

Finally, these activities take place in a time-pressured environment. Development is a multifaceted activity—developers during the course of one day can be financial experts, construction managers, designers, and salespersons among many other types of professions. They are not necessarily software experts nor do they have the time to devote to learning the necessary programming skills or to continuously audit spreadsheets. What they need is a powerful, flexible, and reliable tool that will meet their technical needs, provide the information they need, and maximize their efficiency.

Consequently, professionally produced proprietary software is essential in the development industry. The market leader is Argus Developer for reasons that will become apparent in the course of this book.

An Overview of Argus Developer

The Basics

In this section, we will start to look at the Argus Developer program itself. The first section is a basic orientation; those who have been through an Argus training session should be familiar with its contents. However, even if you think you are up to speed on the basics, take a close look. It is worth ensuring that we are all starting from the same point when we advance into more complex uses of the program.

Let's start with a word or two on the history of Argus Developer.

History and Development of the Program

Argus Developer started its life as Circle Developer.

Circle was a company founded by Adrian Katz in London in 1990, initially with Developer as its sole product, although this program was soon followed by Circle Investor valuation and investment appraisal software. The original DOS version of Developer sold well into what was then a fairly competitive and crowded market place. In the mid- to late 1990s, the launch of the heavily revised windows version of Developer—initially called Visual Developer—established the company as the dominate player in the marketplace, first in the UK and then globally. From this initial success, the program has continued to be developed though the principle structure, and layout remains largely unchanged.

In 2006, there were a number of key events. First, Circle was bought by its larger American rival, the Houston-based Realm Business Solutions. Subsequently, the whole group was rebranded under the Argus Software banner and Circle Developer became Argus Developer. That same year, a major upgrade of the program was launched, Developer 3, which featured improved functionality of the main program and the addition of a new and very powerful Structured Finance module. There have subsequently been three more version changes that introduced additional functionality in regard to residential development appraisal along with what are called “operated assets”—golf courses, hotels, marinas, and so forth. Throughout, the core way the program works and calculations run have remained constant. Someone familiar with Circle Visual Developer would quickly feel comfortable with Argus Developer Version 5 or 6.

In April 2011, the Toronto-based Altus Group Limited announced that it acquired Realm Solutions Inc., the owner of Argus Software, for US\$130 million. This acquisition was completed in June 2011.

While Argus Developer remains the best appraisal software, there are competitors. These include products produced by Estate Master (Estate Master DF), ProDev, KEL, and Caldes. All are considerably cheaper than Argus Developer, and all have their good and bad points. Argus Developer is, however, the clear market leader both in terms of the number of individual licenses, its global coverage, and its capabilities.

Program Outline: The User Dashboard

Argus Developer is primarily a cash flow calculation tool used for constructing development feasibility models. The program can be used to calculate land value (or the maximum bid that a developer can pay for land and still meet profitability targets) or to calculate the level of profitability that the project will make based upon the developer’s assumptions.

Data entered into the program is placed within either a preset or user-defined time frame, and calculation is made using discounting based on the interest rate assumptions entered. One of the principle outputs is a pro forma laid out in a traditional fashion. It simply presents the data in a familiar layout to the user and any third parties. No calculation is undertaken using the pro forma sheet, nor is it possible to make data entries into it.¹

■ **Note** You cannot enter or change figures on the pro forma or summary report in Developer. It is fed by all the variables you enter in other parts of the program.

¹It is, of course, possible to amend or alter the figures in the pro forma when it is exported to a word processing application such as MS Word.

Argus Developer traditionally had four main screens or tabs in which data was entered and where the output/results of the calculation was displayed. This has changed slightly for the first time in Version 6, where a “dashboard” type approach has been taken. However, the same basic input and result areas exist, at least when the simple finance assumption has been made (see Figure 2-1). These tabs are Project, Definition, Cash Flow, and Pro Forma. Where the Structured Finance module is active in the program (in other words, where the user is making more sophisticated and detailed assumptions about the sources and application of funds used in the project), a separate tab showing the finance cash flow appears (as shown in Figure 2-1). In addition, there are tabs for performance measures and the data checker; the latter a mechanism for identifying errors.

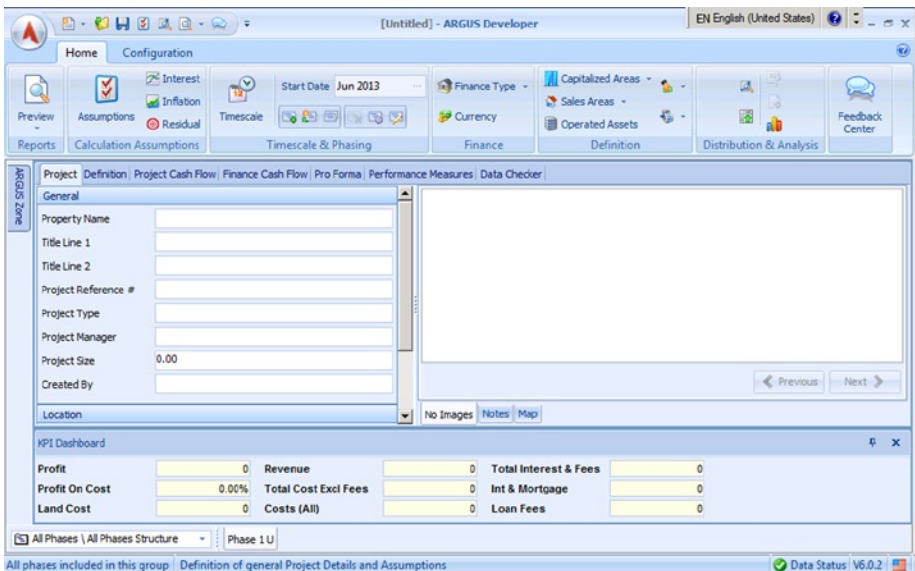


Figure 2-1. Argus Developer’s initial screen: The User Dashboard

There is also a toolbar menu (Figure 2-2) that allows various functions of the program to be accessed. Each of the functions will be discussed as appropriate, but annotated diagrams of the icons are included in Figure 2-2.



Figure 2-2. Ribbon bar where program functions are accessed

In addition to the front part of the dashboard, there is a “backstage” view, accessed by clicking on the Argus symbol. This gives access to functions such as printing, saving, and file import and export (Figure 2-3). It also allows the user to check and define the preferences (things such as units of measurement—Figure 2-4) and configuration (currency and calculation preferences, for example, as shown in Figure 2-5).

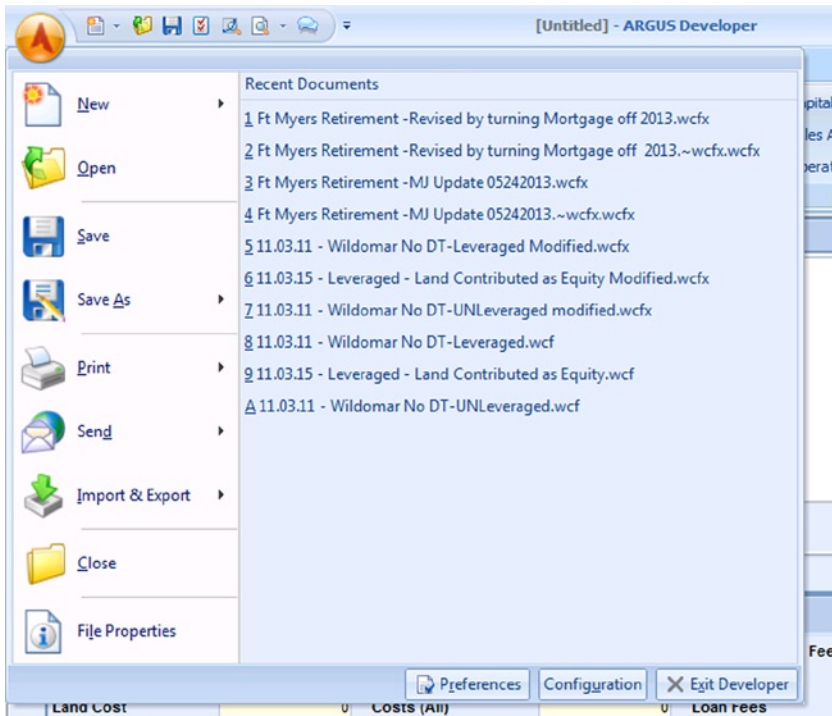


Figure 2-3. “Backstage” screen

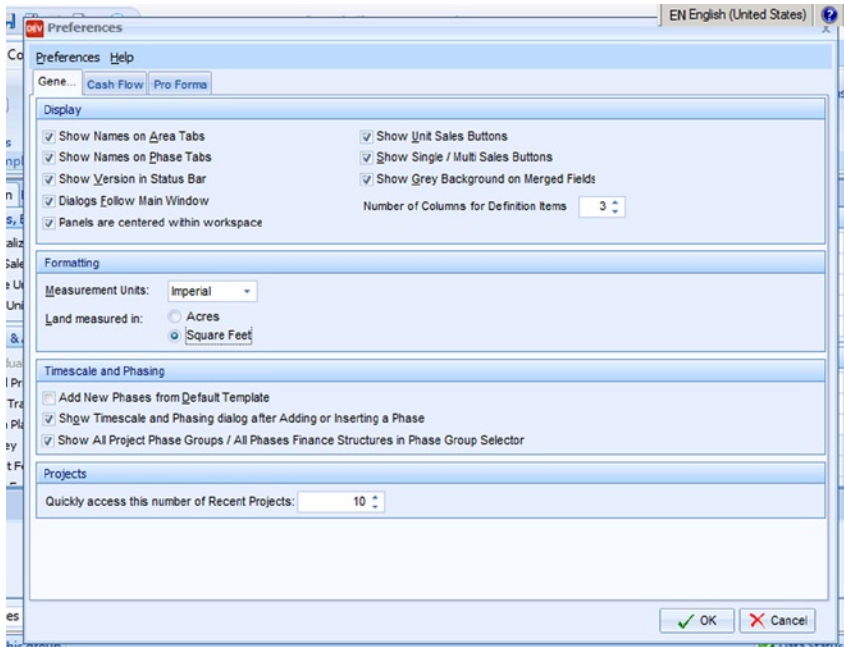


Figure 2-4. Preferences screen

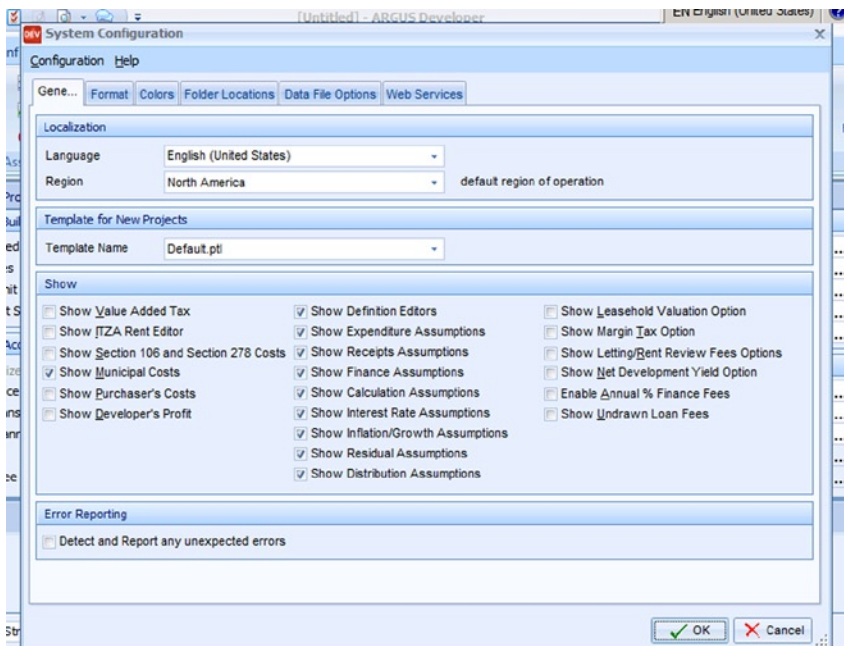


Figure 2-5. System configuration screen

Argus Developer has a preloaded template with a set of assumptions, preferences, and configurations already in place. These are designed to reflect the most commonly used requirements of the market into which the software has been loaded. Argus has created templates for the US, UK, Eurozone, and Middle Eastern markets, among others. You may wish to change the assumptions in your version of the software to suit your state or industry-specific requirements. It is possible to create a completely custom template to suit your exact requirements. For most circumstances, however, the default template is perfectly adequate and little prior setup of the program is required.

For this orientation section, we will work through the most used screens necessary for most appraisals, starting with the project screen.

Project Assumptions

Project is where the address details of the project are entered and also where the main calculation assumptions are made. As we shall see, these are broad, global assumptions that can be changed or overridden at any point during the calculation. They can be used to make broad assumptions where a quick calculation is required.

On the older versions of the software (before Version 6), the Project tab includes two shortcut buttons that take the user to key assumption elements. There is a third button for structured finance. This is an add-on module enabling the modeling of more complex financing such as partnerships and different sources and costs of finance. Unless this module option is taken, this option is grayed out.

■ **Caution** The Structured Finance module is standard on Version 6 of Argus Developer sold in the United States, but it's an add-on that must be purchased for previous versions and in some other markets.

In Version 6, the version illustrated in this book, onward the assumptions for calculation are accessed via the ribbon bar (Figure 2-6).

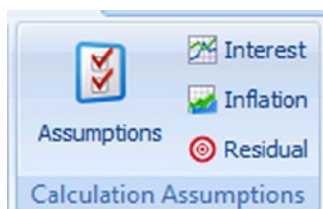


Figure 2-6. The assumptions for calculations shortcuts on the ribbon bar

Clicking the large icon will take you into the assumptions sections proper. You will observe that there are eight individual tabs in this section (Figure 2-7). As previously noted, Developer is preloaded with a template—essentially a default set of assumptions—that allows rapid appraisals to be carried out. These assumptions can be altered or just left at the default settings. For all appraisals, however, two areas must be visited by the appraiser: the Interest Sets sub-tab and the Residual sub-tab, which sets the mode of calculation. These will be covered in detail in the worked example section that follows.

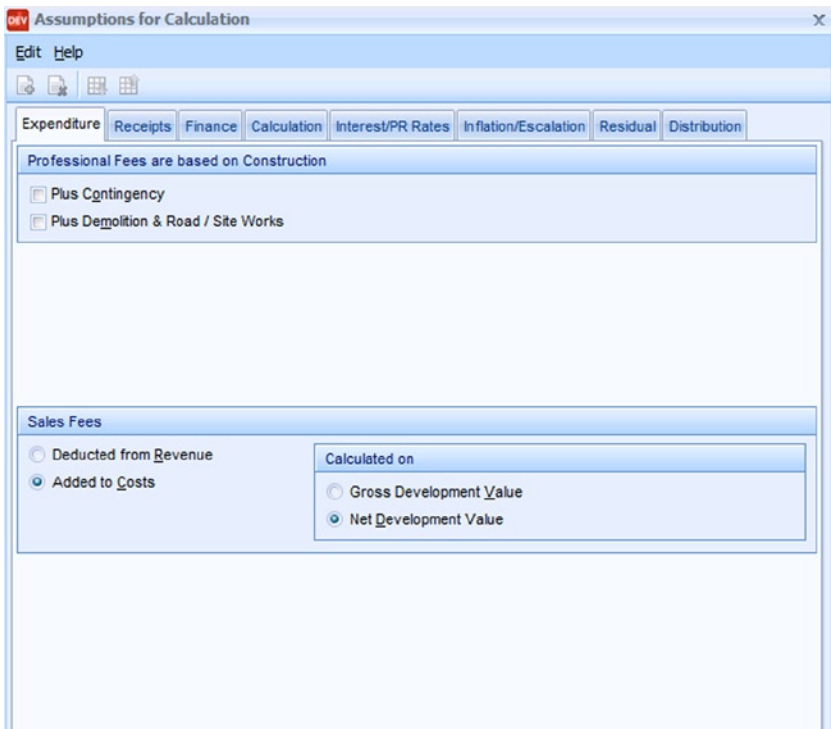


Figure 2-7. The Assumptions for Calculation tab showing the eight sub-tabs

Back on the user dashboard, to the right of the assumptions icon, is another sub-tab that takes the user to an important set of assumptions, the timescale and phasing section (Figure 2-8).

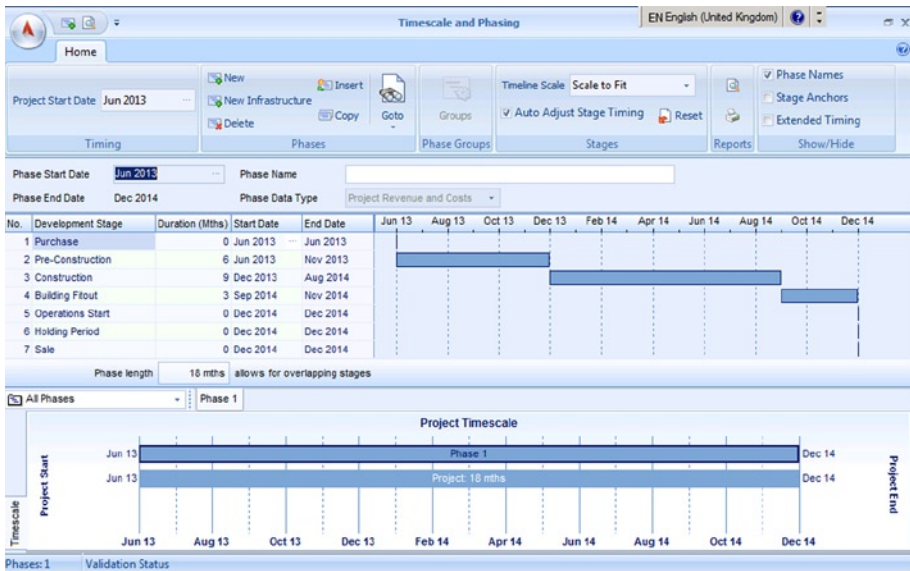


Figure 2-8. The Timescale and Phasing screen

The timescale assumptions are an essential part of an appraisal, and assumptions must be made here. The development is broken down into seven stages. The user does not have to define timescales for each of these stages, only those appropriate for the scheme.

Two things are important to know. First, the template the program comes pre-loaded with assigns activities and events to each of these stages. For example, any new construction work will be assigned to the construction phase with an automatic S-curve distribution.² Demolition work will be assumed to be a one-off event at the beginning of the construction phase and so on. The second thing to note, however, is that each individual event can be individually timed and distributed to suit the particular project. These pre-set assumptions can all be overridden.

Once the basic calculation assumptions and the timescale are set, the user would then normally go to the next tab, Definitions.

Definition Screen in Outline

The Definitions tab is the primary (but not the only) point for data entry. It is divided into groups of associated cost and income fields (Figure 2-9).

²An S-curve distribution follows most construction spending, where early spending is low, then builds, then flattens out again.

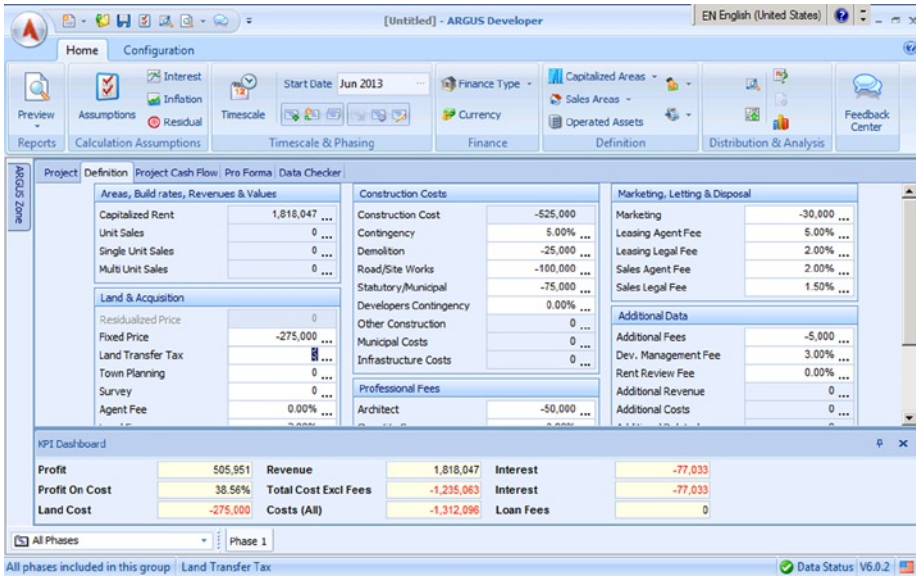


Figure 2-9. The Definitions tab

Most of the data entry can be carried out by typing values and assumptions straight into the relevant box, but there are some areas where it is necessary to drill down behind the box to make detailed entries. That is true of the four items in the upper-left part of the Definitions tab (Figure 2-10).

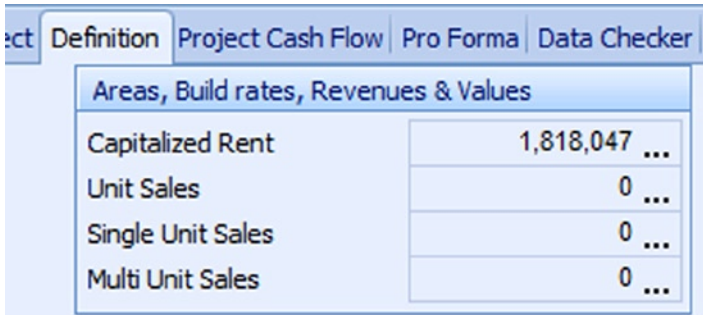


Figure 2-10. Detail of Definitions tab—the grouped project-type shortcuts

This is where the main value and construction cost elements are calculated. The Capitalized Rent box is designed mainly for income-producing commercial property while the three other boxes are for different types of residential development calculation.

In this case, drilling down behind the Capitalized Rent box (by clicking on the three dots) reveals the calculation that goes on behind (Figure 2-11).

Heading	Retail Unit	Gross Unit Area ft*	5,000	Additional Unit Area ft*	0
Unit Number	R1A	Gross Area ft*	5,000	Additional Area ft*	0
Use Type	Retail Shop	Net Unit Area ft*	4,500	Alternate Area	0
Number of Units	1	Net Area ft*	4,500	ITZA Area ft*	0
Parking Stalls	25.0	Gross:Net Ratio	90.00%	<input checked="" type="checkbox"/> Locked	

Construction Cost	Financial	Rent	Percentage Rent	Lease	Financial	Rent Capitalization	
Rate pF	90.00	Market Rent Rate pF pa	35.00			Cap Rate%	8.0000%
Rate Additional pF	0.00	Rental Escalation	(None)			Initial Rent	157,500
Cost / Unit	450,000	Step Rent Profile	(None)			Changes during Lease	0
Cost / Parking Stall	3,000	Annual Rent / Unit	157,500			Rent at Capitalization Date	145,444
Parking Stalls Cost	75,000	Gross Market Rent pa	157,500			% Non-Recov. Cost	5.7500%
Gross Cost	525,000	Initial Rent	157,500			Fixed Non-Recov. Cost	3,000
Stage	Construction	% Non-Recov. Cost	5.750%			Total Costs	12,056
Starts in	Dec 2013	Fixed Non-Recov. Cost	3,000			Percentage Rent	0
Distribution Months	9	Total Non-Recov. Cost	12,056			Valuation Rent	145,444
TiRate pF (Leasing)	0.00	Annual Rent	145,444			Capitalized Rent	1,818,047
		Rent Free Period (Months)	6			Manual Capital Value	0
		Lease Comm. Profile	(None)			Stage	Sale
		Lease Comm. Distribution				Capitalized At	Dec 2014

Retail Unit	Gross Area ft*	Net Area ft*	Gross Cost	Gross Rent	Capitalized Rent
	5,000	4,500	\$525,000	\$145,444	\$1,818,047

Figure 2-11. Drilling down behind to reveal the Capitalization of Income screens

There are other view options—including a schedule view—but this is the detailed view of the Areas, Construction, Lease Set Up, and Capitalization screen. Usually just called the “Commercial Areas” screen, it is divided into four broad parts. The top part is where the individual building type is defined and the built and net areas are provided. The lower-mid-left area is where the construction cost is calculated. The lower-mid-center area is where the income structure from the development is defined. The lower-mid-right area is where the capitalization of this income stream takes place.

There are no limits on the number of tabs that can be created in the Areas screen. The tab can handle both freehold and leasehold interests.

The results of all the calculations from these screens are taken back into the Definitions tab where they are displayed as grayed out boxes, in this case against Capitalized Rent and the Construction Cost boxes. (Refer to Figure 2-5.) An entry here is also reflected in the cash flow and the summary outcome sheet.

The remaining boxes in the Definitions tab allow all elements of the development to be costed or valued, and these elements are then placed in the relevant time frame. This can be done using the preloaded template or each individual cost and revenue element can be manually determined.