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HARTIJE OD VREDNOSTI PODRŽANE HIPOTEKOM: USPON I PAD STAMBENOG TRŽIŠTA ZAPADA I IMPLIKACIJE ZA SRPSKI SEKTOR

Rezime

Hartije od vrednosti podržane hipotekom spadaju u klasu hartija od vrednosti podržanih aktivom, u finansijske derivate koji vezuju svoju vrednost i profil isplate za pul stambenih ili komercijalnih nekretnina. Broj raspoloživih struktura i njihovih primena je naglo porastao u poslednjih nekoliko decenija. Međutim, zbog nedavne svetske finansijske krize, prikladnost njihove upotrebe kao strategije investiranja i hedžinga dovedena je u pitanje. Ovaj rad predstavlja pregled hipotekarnih tržišta i njihov uticaj na nedavnu ekonomsku krizu i prognozu njihove upotrebe u budućnosti, sa posebnim osvrtom na njihovu primenljivost na srpskom stambenom tržištu.

Ključne reči: aktiva, hipoteka, hartija od vrednosti, stanovi

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MORTGAGE BACKED SECURITIES: THE RISE AND FALL OF THE WESTERN HOUSING MARKET AND THE IMPLICATIONS FOR THE SERBIAN SECTOR

Summary

Mortgage Backed Securities are a class of asset backed securities, financial derivatives that link their value and their payout profile to a pool of residential or commercial properties. The number of available structures, as well as their uses, proliferated in recent decades. However, due to the recent world-wide financial crisis, the appropriateness of their use as an investment and hedging strategy has been brought into question. This paper presents an overview of mortgage markets and mortgage backed securities, their uses and applications. It critically assesses their impact onto the recent economic crisis and forecasts their use in the future with specific consideration of their applicability in Serbian housing market.

Keywords: asset, mortgage, security, housing

Zapadno stambeno tržište je oduvek bilo aktivno i efikasno, sa većinom porodica kao vlasnicima svojih kuća. Izraz "vlasnici" treba shvatiti uslovno, jer su praktično sve kupljene kuće delimično ili u celosti pomognute hipotekom (stambeni kredit). Rok kredita od 25 godina smatra se standardnim, ali može da se prilagodi svakom pojedinom klijentu. Pošto prosečni vlasnik menja kuće nekoliko puta tokom života, hipotekarno tržište se, u pogledu broja i vrednosti kredita, ubrzano razvijalo. Zbog veličine i profitabilnosti ovog tržišnog sektora, većina komercijalnih banaka nudi lepezu hipotekarnih paketa: od kupaca po prvi put, kupaca kuća za izdavanje, kuća u sopstvenoj gradnji, do onih koji žele da aktiviraju kapital od kuće koju već poseduju. Da bi se stvorio dovoljan pul sredstava za nove ugovore i održao rast, banke su morale da budu sve inovativnije u korišćenju postojećih pulova hipoteka, tako da je širenje na sektor derivata izgledalo kao najlogičniji potez. Finansijski derivati (hartije od vrednosti koje izvode svoju vrednost iz osnovne aktive) predstavljaju najrizičniji, ali i najprofitabilniji sektor finansijskog tržišta, obuhvatajući robne, valutne i kapitalne derivate, kao i egzotične finansijske instrumente kao što su meteorološki derivati (plaćanja koja zavise od vremenskih uslova na određenim lokalitetima). Sa mnogim popularnim derivatnim proizvodima vezanim za instrumente koje je teško evaluirati i oceniti u pogledu tržišnog i kreditnog rizika, hipotekarni derivati izgledali su kao sigurna opcija, uzevši u obzir dobro etablirano i relativno transparentno stambeno tržište. Naredne sekcije daju kratak pregled zapadnih hipotekarnih tržišta, njihove derivatne pandane i njihovu ulogu u nedavnoj svetskoj krizi. Uloga ovih instrumenata, njihova primena u srpskom komercijalnom i ekonomskom okruženju data je u nastavku, praćena zaključcima o budućim trendovima na stambenim tržištima.

Zapadno stambeno tržište

Cene privatnog stambenog prostora (iako širok pojam, u daljem tekstu referisanim kao „kuće") u industrijalizovanim zemljama istorijski su imale uzlazni trend, čak i kad se uzme u obzir inflacija. Unutar ovog globalno trenda, "mehuri" cena kuća - brza povećanja vrednosti nekretnina dok se ne dosegnu neodrživi nivoi u odnosu na prihod, praćena brzim padom - javljaju se periodično, dovodeći do negativnog kapitala (neotplaćeni dug iznad vrednosti nekretnine). Međutim, mehuri mogu da se identifikuju samo naknadno, posle tržišnih korekcija. Osnovni uzroci ovih brzih fluktuacija su kompleksni i po prirodi su lokalni i globalni. Brojni faktori koji stoje iza brzog i neodrživog rasta uključuju: okruženja niskih kamatnih stopa, sa ciljem ohrabrivanja potrošnje; fluktuacije tržišta akcija, kao što je bio dot com bum krajem 1990-tih godina; visoki koeficijenti "kredit-prema-vrednosti", niski kreditni standardi, da pomenemo samo neke. Istorijski, cikluse su pratili predvidivi trendovi: kombinacija jednog ili više od navedenih faktora dovela bi do povoljnog koeficijenta cena-prema-rentiranju (gde je otplata hipoteke znatno niža od uporedivih troškova rentiranja) , što stvara okruženje pogodno ne samo za kupovinu doma za stanovanje, već isto tako imovinu za investiranje (jer bi hipoteku pokrio generisan prihod od rentiranja uz višak). Sa više kupaca na tržištu, cene rastu zbog ponude i tražnje, stvarajući eksponencijalni trend, jer kupci pokušavaju da obezbede kupovinu pre daljeg povećanja cena, dok su prodavci uzdržani čekajući bolju cenu. Na kraju se dolazi do tačke kada ovaj trend ne može da opstane i brzo se preokreće.

Mere dostupnosti stanova

Vlasništvo nad kućom se široko prihvata kao povoljnije od rentiranja, naročito kada se očekuje dugoročno korišćenje. Na fluidnim i efikasnim tržištima kuća, kupovina nekretnine se posmatra sa gledišta korisnosti (kvalitet života u konkretnoj imovini) i investicije (vrednost preprodaje). Kod ovog drugog, imovina se posmatra kao aktiva čija vrednost treba da aprecira tokom vremena, gledište podržano uverenjem da, za razliku od kapitala i akcija, nekretnine ne gube vrednost na dugi rok. Uz ovo popularno očekivanje ide široko rasprostranjeno uverenje da će investiranje u nekretnine donositi natprosečne prihode kao investicija. Investicioni motiv za kupovinu stambenog prostora treba posmatrati odvojeno

Western housing market has always been active and efficient, with most families owning their homes. The term 'own,' however, should be considered loosely, as virtually all purchased homes are partially of completely assisted by a mortgage (house purchase loan). A loan term of 25 years is considered a standard, but can be tailor made to each individual customer. With an average owner changing homes several times in their lifetime, the mortgage market, both in terms of the number and value of loans, had been expanding rapidly. Owing to the size and profitability of this market sector, most commercial banks offer a range of mortgage packages: from first time buyers, buy-to-let properties, self-built homes, to those wishing to release equity from the home they already own. To create sufficient pool of funds for new contracts and sustain the growth, the banks had to become increasingly innovative in utilising the existing mortgage pools. Thus, expanding into the derivatives sector seemed the most logical move. Financial derivatives (securities that derive their value from an underlying asset) are the riskiest, but most profitable financial market sector, ranging from commodity, currency and equity derivatives, to exotic trades such as weather derivatives (payments contingent on weather conditions on certain localities). With many popular derivative products linked to instruments that are hard to evaluate and assess for market and credit risk, mortgage derivatives seemed like a safe option, considering a well established and relatively transparent housing market. The following sections give a brief overview of western mortgage markets, their derivative counterparts and their role in recent worldwide financial crisis. The role of these instruments, their applicability in Serbian commercial and economic environment is presented next, followed by conclusions on the future housing market trends.

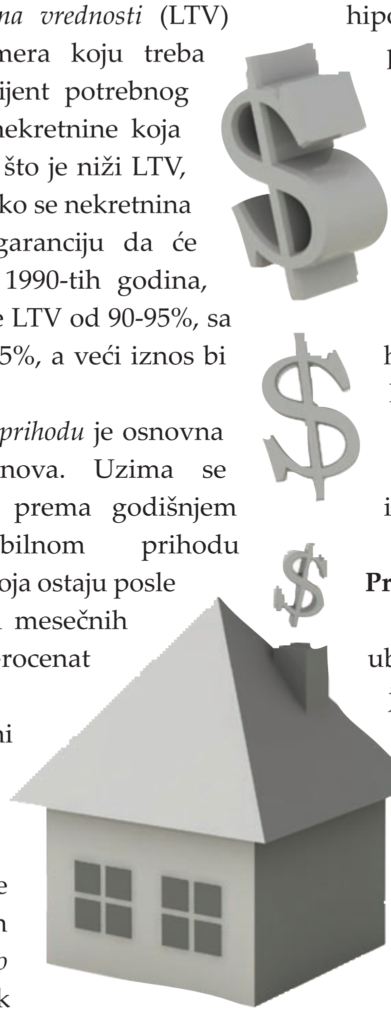
Western Housing Market

The house prices in the industrial countries historically had an upward trend, even when adjusted for inflation. Within this global trend, house price 'bubbles' - rapid increases in property valuations until unsustainable levels relative to incomes are reached, followed by a rapid decline - occur periodically, resulting in subsequent negative equity (outstanding debt higher than a value of a property). However, the bubbles can only be identified with hindsight, after the market corrections. The underlying causes of these rapid fluctuations are complex and are both local and global in nature. The numerous factors behind the rapid and unsustainable growth include: low interest rate environments, aimed at encouraging spending; stock market fluctuations, such as dot.com boom in the late 1990s; high loan-to-value rations, relaxed lending standards, to name just a few. Historically, the cycles have followed predictable trends: a combination of one of more above named factors would result is favourable price-to-rent ratio (whereby it mortgage repayment is significantly lower than a comparable cost of rental), creating an environment suitable for not only purchasing a main home, but also a property for investment (as the mortgage would be covered by the generated rental income with a surplus). With more buyers in the market, the prices increase due to supply and od potrebe za stanovanjem, jer finansijsko poređenje relativnih troškova posedovanja naspram rentiranja jednakog smeštaja može da se proceni, kako se prikazuje u narednim sekcijama.

Sa gledišta banke koja daje osiguran kredit bilo koje vrste (u ovom slučaju podržan specifičnom imovinom), razmatra se nekoliko pitanja. Mere prezentovane u daljem tekstu koriste se u svim zapadnim zemljama, sa nekim varijacijama u pogledu uslova. Te mere opreza bile su brzo napuštene tokom 1990-tih kada je ono što se ranije smatralo neophodnim skupom finansijskih uslova iznenada postalo suvišna mera jer su stambena tržišta postala očigledno profitabilna kao nikad ranije. Ipak, pošto su te mere od nastupanja finansijske krize postale još strože, njih vredi ovde predstaviti.

Koeficijent kredit prema vrednosti (LTV) prva je i najvažnija mera koju treba razmotriti. To je koeficijent potrebnog zaduženja i vrednosti nekretnine koja će se kupiti. Jasno je da što je niži LTV, to je sigurniji kredit, jer ako se nekretnina preuzme, banka ima garanciju da će povratiti sredstva. Pre 1990-tih godina, tipične hipoteke su imale LTV od 90-95%, sa obaveznim učešćem od 5%, a veći iznos bi poboljšao uslove kredita.

Koeficijent cene prema prihodu je osnovna mera dostupnosti stanova. Uzima se kao odnos cene kuće prema godišnjem porodičnom disponibilnom prihodu (anualizovana sredstva koja ostaju posle pokrivanja svih tipičnih mesečnih izdataka), izražen kao procenat ili kao godine prihoda.



Međutim, u većini zapadnih zemalja, kreditni limit za obezbeđeni kredit, kao što je hipoteka, tipično se izračunava korišćenjem *koeficijenta cene prema neto prihodu*, gde se umnožak godišnje plate (uključujući porez, nacionalno osiguranje ili druge obaveze) koristi kao plafon za obezbeđeni kredit.

U Velikoj Britaniji, na primer, pre stambenog buma 1990-tih godina, multiplikator za samca bio je 3,5 dok su venčani, zaposleni parovi mogli da dobiju hipoteku u rasponu od 2,5 do 3 puta njihov zajednički godišnji prihod. Na ovaj kreditni limit uticala je druga mera, *koeficijent depozita prema prihodu*.

Koeficijent depozita prema prihodu definiše se kao minimum zahtevanog učešća za tipičnu hipoteku, izraženo kao procenat vrednosti kuće i upoređen sa mesečnim ili godišnjim prihodom. To je ključni faktor kod odlučivanja o uslovima hipoteke, jer utiče na LTV. Naročito je značajan za kupce po prvi put bez postojećeg kapitala u vidu kuće, jer nemogućnost da pokriju učešće može da im onemogući pristup tržištu zbog previsokih cena.

Indeks dostupnosti je još jedna mera koja se koristi za procenu rizika kome je banka izložena kada kreditira. Izračunava se kao odnos između stvarnog mesečnog troška hipoteke prema prihodu, posle plaćanja poreza i drugih dažbina (tj. prihod koji se unosi u kuću). Ne koristi se u velikoj meri, mada nudi sasvim realističnu meru mogućnosti domaćinstva da snosi otplatu hipoteke.

Varijanta navedenog indeksa dostupnosti meri ukupne troškove kućevlasništva, uključujući otplatu hipoteke, komunalije i porez na imovinu, kao procenat tipičnog mesečnog prihoda domaćinstva pre poreza, ali ga češće koriste analitičari nego što se koristi za izračunavanje stvarnih uslova hipoteke.

Promene uvedene tokom 1990-tih godina

Za vreme buma stanogradnje banke su ublažile svoju kreditnu politiku, tako da je većina navednih mera bila praktično irelevantna.

Ranija stroga politika ograničenja LTV na 95% značila je da su često viđeni krediti sa 105% ili višim LTV, pri čemu su neke banke nudile dodatni kredit za pokriće preseljenja ili uređenja enterijera. U mnogim slučajevima bili su uključeni i krediti za premošćavanje, za one kupce kuća koji su delimično finansirali kupovinu novih kuća prodajom starih. Na taj način, zbog uključenja nekoliko strana (kupci stare nekretnine su najverovatnije isto tako prodavali svoje prethodne kuće nekome koji takođe prodaje svoj prethodni smeštaj i tako demand, creating an exponential trend, as the buyers are trying to secure a purchase before the price increases even more, whilst the sellers are holding back waiting for a better price. Eventually a point is reached when this trend cannot be sustained and reverses rapidly.

Housing affordability measures

Home ownership is widely accepted as preferable to renting, especially when long-term occupancy is expected. In fluid and efficient housing markets property purchase is considered from both utility (quality of life in a particular property) and the investment (re-sale value) standpoint. For the latter, property is perceived as an asset that should appreciate in value over time, the view supported by the belief that, unlike stocks and shares, homes do not lose value long term. Compounding this popular expectation is the widely held belief that property investments will yield better-than-average returns as investments. The investment motive for home purchase should be considered separately from the necessity of housing, as the financial comparison of the relative costs of owning versus renting the equivalent utility can be estimated, as described in the subsequent sections.

From the standpoint of a bank extending a secured loan of any type (in this case backed by a specific property), several issues are considered. The measures described below were used throughout the western countries, with some variations in terms and conditions. Those prudent measures were quickly abandoned in the 1990s when, what was previously considered a necessary set of financial conditions, suddenly became a superfluous measure, as the housing markets became apparently as profitable as never before. Nevertheless, given that these measures have become even more rigid since the onset of financial crisis, they are worth introducing here.

The *loan to value ratio (LTV)* is the first and the most important figure to consider. It is the ratio of required borrowing and the value of the property to be purchased. Clearly the lower the LTV, the more secure the loan, as if the property is repossessed, the bank is guaranteed to recover the funds. Prior to the 1990s, the typical mortgages had 90 - 95% LTV, whereby the 5% downpayment was necessary, and any larger amount would improve the terms of the loan.

The *price to income ratio* is the basic housing affordability measure. It is taken as the ratio of a house price to annual familial disposable income (annualised funds remaining after all typical monthly outgoings are met), expressed either as a percentage or as years of income.

However, in most western countries, borrowing limit on a secured loan, such as mortgage, is typically calculated using *price to net income ratio*, whereby a multiple of annual salary (inclusive of tax, national insurance or other obligations) is used as a cap on the secured loan. In the UK, for example, prior to the housing boom in the 1990s, the multiplier for a single person was 3.5, whereas married, employed couples could obtain a mortgage in the range of 2.5 or 3 times their joint annual income. This borrowing limit was also affected by another measure, *deposit to income ratio.*

The *deposit to income ratio* is defined as the minimum required downpayment for a typical mortgage, expressed as a percentage of the house value and compared to the months or years of income. It is a critical factor in deciding the mortgage terms, as it affects the LTV. It is especially important for first-time buyers without existing home equity, as inability to fund the downpayment may 'price them out' of the market.

The *affordability index* is yet another measure, used to estimate the risk the bank is exposed to when lending. It is calculated as the ratio of the actual monthly cost of the mortgage to the income, after tax and other duties have been paid (i.e. take-home income). It is not widely used, even though it offers quite a realistic measure of the ability of a household to afford mortgage repayments.

A variant of the above affordability index measures total home ownership costs, including mortgage payments, utilities and property taxes, as a percentage of a typical household's monthly pre-tax income, but is more often used by analysts, rather than for actual mortgage term calculations.

Changes introduced in the 1990s

The housing boom saw many of the banks

dalje), ugovorne obaveze za kupovinu nove imovine mogle su da nastanu pre prodaje stare kuće. U takvim slučajevima, krediti za premošćavanje mogli su da se koriste za finansiranje kupovine nove kuće dok se ne oslobodi kapital stare imovine. Mada je ovo bilo, zaista, vrlo korisno za kupce, naročito za one uključene u lance duge prodaje/kupovine sa mnogim nekretninama koje menjaju ruke i uticajem na dinamiku transakcija, stvorilo je situaciju u kojoj iznos uzet na kredit za konkretnu nekretninu dosegne preko 150% vrednosti. Problem je dalje bio osložen ukoliko prodaja stare kuće ne bi uspela, u kom slučaju bi zajmporimac bio suočen sa pokrivanjem dve hipoteke, od kojih je jedna iznad vrednosti kuće. Tako kada je kriza nastupila i mnogi vlasnici kuća bili suočeni sa padom vrednosti kuća, LTV od 150% brzo se udvostručio. Sa mnogim kućevlasnicima koji nisu mogli da ispune i podnesu takve obaveze, preuzimanje kuća od strane banaka je učestalo, dovodeći stambenu krizu na nivoe koji nikad ranije nisu bili viđeni.

Mere profitabilnosti rentiranja

Dok se gornje razmatranje odnosilo na kućevlasnike koji koriste svoje kupljene nekretnine, zbog velikog broja zahteva za hipoteke po kupovini za izdavanje, neophodna je mera ili rizik povezan sa održivošću druge (ili u nekim slučajevima treće) hipoteke. Izračunavanja prezentovana u daljem tekstu predstavljaju grube mere koje treba da se prilagode za konkretnu zemlju ili region, kao i za konkretnu ekonomsku situaciju. Jasno je da mladi, dobrostojeći, zaposleni samci mogu lako da dozvole sebi kupovinu nekretnine, ali mogu da budu nespremni da preuzmu takav nivo obaveze. Tako u oblastima koje okružuju velike poslovne i finansijske centre, kao što su Volstrit u Njujorku ili Citi i Kanari Vorf u Londonu, troškovi rentiranja mogu da budu znatno iznad očekivanih u poređenju ne samo sa troškom otplate hipoteke, već i sa drugim rezidencijalnim oblastima.

Prilično gruba mera prihoda od rentiranja je *bruto prinos od rente* - ukupna bruto renta podeljena sa vrednošću nekretnine, izražena kao procenat:

$$\text{Gross rental yield} = \frac{\text{montly rent} \times 12}{\text{property value}} \times 100\%$$

Kako ova vrednost ne uzima u obzir nikakve izdatke, kao što je održavanje, porez na imovinu i prihod, nije indikativna za potencijalnu zaradu. Dalje, stope hipoteke za imovinu koju ne koriste vlasnici tipično su više. Nasuprot tome, *neto prinos od rente* izračunava se kao gore, odbijanjem svih troškova u vezi sa imovinom (i nekad procenjenih perioda bez izdavanja) od bruto mesečne rente.

Vredno je pomenuti da navedena formula potcenjuje stvarni prinos (i bruto i neto), jer pretpostavlja bruto plaćanje na kraju godine, čime ne uzima u obzir reinvesticioni potencijal mesečnog prihoda po važećim kamatnim stopama.

Koeficijent cena-prema-prihodima (P/E), suštinski recipročan *neto prinosu od rente*, predstavlja zajednički indikator relativne vrednosti kapitala. P/E koeficijent za rentiranu imovinu izračunava se deljenjem cene nekretnine potencijalnim neto prihodom koji se generiše izdavanjem - razlika između očekivane godišnje rente i troškova (održavanje, deprecijacija i porez na imovinu). Daje se u sledećem izrazu:

$$\text{Property P/E ratio} = \frac{\text{property value}}{\text{annual rent-expenses}}$$

Korisna mera profitabilnosti rentiranja je razlika između profita koji je realizovan i važećih hipotekarnih stopa, koji se naziva *profitna marža* (koja može da bude pozitivna ili negativna, zavisno od tržišnih uslova).

Profitna marža = neto prinos od rente - hipotekarna stopa

U gornjem izrazu, treba napomenuti da je potrebno uzeti u obzir hipotekarnu stopu za kupovinu-kuće-za-rentiranje a ne prosek, povoljniju brojku.

Promene uvedene 1990-tih godina

Tokom stambenog buma broj kuća koje koriste kućevlasnici povećao se značajno, jer je postalo lakše za kupce da se po prvi relax their lending policies, thus most of the above measures became practically irrelevant.

Previous stringent policy of capping the LTV to 95% meant that loans with 105% or even higher LTVs were frequently observed, with some banks offering additional loans to cover a cost of moving or home decorating. In many cases bridging loans were also included, for home buyers partly funding the purchase of the new home by the sale of the old one. Thus, due to several parties involved (as the purchasers of the old property are most likely also selling their previous home to somebody also selling their previous accommodation, and so on), the contractual obligation to buy the new property could occur prior to the sale of the old home. In such cases, bridging loans could be used to fund the purchase of the new home until the equity is released from the old property. Whilst this was, indeed, very helpful to the buyers, especially those involved in long sale/purchase chains with many properties changing hands and impacting the transaction schedules, it created a situation where the amount borrowed on a particular property could reach in excess of 150% of the value. The problem was further compounded if the sale of the former home fell through, and the borrower was faced with covering two mortgages, one of which exceeded the house value. Thus once the crisis hit, and many homeowners saw their house values plummet, the 150% LTVs quickly became close to double that value. With many homeowners unable to meet and sustain such obligations, home repossessions became more frequent, bringing the housing crisis to the levels never before observed.

Rental profitability measures

Whilst the above considerations related to home owners who occupied the purchased property, given the large number of buy-to-let mortgage requests, a measure or risk associated with sustainability of a second (or in some cases third) mortgage is necessary. The calculations presented below are crude measures that need to be adjusted by a particular country or a region, as well as a particular economic situation. Clearly young, affluent, employed, single individuals can easily afford to purchase a property, but may be unwilling to accept that level of commitment. Thus in areas surrounding large business and financial centres, such as Wall Street in New York, or City and Canary Wharf in London, the cost of rental will be well above the expected, compared not only to the cost of mortgage repayment, but to other residential areas.

A rather crude measure of rental income in the *gross rental yield* -the total yearly gross rent divided by the property value, expressed as a percentage:

$$\text{Gross rental yield} = \frac{\text{montly rent} \times 12}{\text{property value}} \times 100\%$$

As this value does not account for any outgoings, such as maintenance, property and income tax, it is not indicative of potential earnings. Furthermore, mortgage rates for properties not occupied by the owners are typically higher. In contrast, *net rental yield* is calculated as above, by deducting all property-related expenses (and sometimes estimated periods of vacancy) from the gross monthly rent.

It is worth noting that the above formula underestimates the actual yield (both gross and net), as it assumes a gross payment at the end of the year, thus disregarding the reinvestment potential of the monthly income at prevailing interest rates.

The *price-to-earnings ratio (P/E)*, essentially a reciprocal of the *net rental yield*, is the common indicator of the relative equity value. The P/E ratio for a rented property is calculated by dividing the property price by the potential net income generated through letting - the difference between the expected annual rent and expenses (maintenance, depreciation and property taxes). It is given by the following expression:

$$\text{Property P/E ratio} = \frac{\text{property value}}{\text{annual rent-expenses}}$$

A useful measure of profitability of the rental is the difference between the profit realised and the prevailing mortgage rates, referred to as *profit margin* (which can be either positive or negative, depending on market conditions).

put "popnu na lestvicu imovine", a za one sa slabim kreditnim rejtingom da uzmu hipoteku. Međutim, u sektoru kupovine-kuće-za-izdavanje, dogodio se čak veći porast. Ovo je jasno stvorilo paradoks jer oni koji su ranije bili primorani da rentiraju zbog nemogućnosti da mobilišu sredstva, sada su bili vlasnici nekretnine, tako da je bio vidljiv veliki višak u sektoru rentiranja. Važna mera izvodljivosti inicijative kupovine-kuće- za- izdavanje jeste stopa korišćenja.

Stopa korišćenja definiše se putem broja korišćenih rentalnih jedinica kao procenat od ukupnog broja jedinica u datom regionu. Tako, niska stopa korišćenja, ili višak ponude, kako je pomenuto napred, jasan je indikator nestabilnih tržišnih uslova uzrokovanih spekulativnom gradnjom i kupovinom. U tom kontekstu, prodaja i tržište rentiranja kreću se u suprotnom smeru, jer prodaja nadmašuje ponudu, ali rentalna tražnja pada. Tako ovaj sektor doživljava još dublju krizu od kućevlasničke, dalje osložavajući ionako već tešku finansijsku situaciju.

Kućevlasništvo

Dok se definicija uvedena napred odnosi na individualne zajmoprimce i specifičnu imovinu, mere prezentovane u daljem tekstu odnose se na stambeni sektor i konkretni region ili zemlju i prestavljaju vredne ekonomske indikatore.

Vlasnički koeficijent je proporcija domaćinstava koja poseduju svoje kuće, za razliku od rentiranja. Kao što se očekuje da raste linearno sa rastom prihoda, svaka devijacija od ovog odnosa daje signal atipičnih tržišnih i/ili ekonomskih uslova. Na primer, ako stopa porasta kućevlasništva pređe rast prihoda, ona može da implicira da su ili kamatne stope suviše niske, što dovodi do poboljšanih hipotekarnih stopa, ili da su stambeni krediti dati mnogo liberalnije, bez uzimanja u obzir gore prezentovanih mera. Otuda je ona dobar indikator da li će predstojeća kriza stanogradnje biti kombinacija visokog koeficijenta kućevlasništva i povećane stope subprajm kreditiranja (krediti odobreni klijentima sa kreditnim rejtingom ispod optimalnog). Te mere su bile suviše očigledne u periodu koji je prethodio finansijskoj krizi, ali su bile u velikoj meri ignorisane, jer su mnogi stavljali svoju sudbinu u sektor derivata (o kome se govori u daljem tekstu), koji je istorijski nudio znatno više prihode od onih koje donose druga tradicionalnija tržišta.

Hartije od vrednosti podržane aktivom

Hartije od vrednosti podržane aktivom je izraz koji obuhvata lepezu derivatnih instrumenata koji su u suštini dužnička obaveza sa potraživanjem prema novčanim tokovima koji nastaju iz pula hipoteka (u privatnom ili komercijalnom sektoru). U suštini, hipotekarne obaveze jednog ili više emitenata grupišu se zajedno i preprodaju investitorima, koji za unapred plaćeni celokupni iznos primaju prihod po osnovu hipotekarnih otplata. Emitent koristi novčane investicije za emitovanje novih hipoteka, dok investitor očekuje visoki prinos, zbog popularnog uverenja da nekretnine nisu samo sigurna investicija, već investicija koja treba da pruži natprosečne prihode sa nižim očekivanim fluktuacijama od viđenih na tržištu akcija. Razvijene su brojne varijacije navednog koncepta, od kojih su najpopularnija prezentovane u daljem tekstu.

Kolateralizovane hipotekarne obligacije (CMOs) - Svrha CMOs je distribucija rizika i prihoda iz pula hipoteka prilagođena da ispuni potrebe klijenata. Ima mnogo varijanti ovog osnovnog koncepta, kao što su:

Uzastopne tranše plaćanja su instrumenti gde se CMO podeli na nekoliko tranši koje se rangiraju A, B, C itd. Kamata po hipotekarnim obligacijama plaća se proporcionalno investiciji po svakoj tranši, tako što tranša A prima sav prihod dok ne bude u potpunosti otplaćena. Prati je tranša B i tako dalje. Ovo su rizične investicije jer je prevremena otplata, u pogledu dinamike i vrednosti novčanih tokova, nepredvidiva. Međutim, investitori u nekretnine, koji bi želeli diversifikovani portfolio, ali nalaze da je nepraktično ili nemoguće da to postignu neposredno na fizičkom tržištu, smatraju da su CMOs aktraktivni. Investiranje novca unapred, koje bi moglo da kupi samo mali broj konkretnih nekretnina čije hipotekarne otplate mogu da budu vrlo volatilne, putem CMO stvara proporcionalnu izloženost velikom broju

Profit margin = net rental yield- mortgage rate

In the above expression, it has to be noted that the mortgage rate for a buy-to-let homes needs to be considered, rather than average, more favourable, figure.

Changes introduced in the 1990s

During the housing boom the number of owner-occupied homes increased significantly, as it became easier for first time buyers to 'get on the property ladder,' and for those with poor credit rating to obtain mortgage. However, even larger surge was experienced in the buy-to-let sector, with many properties available for rent. This, clearly, created a paradox, as those who were previously forced to rent due to the inability to raise funds, were now property owners, thus a large oversupply of the rental sector was evident. An important measure of the viability of buy-to-rent initiative is the occupancy rate.

The *occupancy rate* is defined as the number of occupied rental units as a percentage of the total number of units in a given region. Thus, a low occupancy rate, or oversupply, as mentioned above, is a clear indicator of unstable market conditions brought about by speculative construction and purchase. In this context, sales and rental market move in opposite direction, as sales demand exceeds supply, but rent demand is declining. Thus this sector experienced even deeper crisis that the home ownership one, further compounding already difficult financial situation.

Housing ownership

Whilst the definitions introduced above related to individual borrowers and specific properties, the measures described below relate to a housing sector in a particular region or a country, and are valuable economic indicators.

The *ownership ratio* is the proportion of households who own their homes, as opposed to renting. As it is expected to rise linearly with increase in incomes, any deviation from this relationship signals atypical market and/or economical conditions. For example, if the rate of increase in home ownership surpasses the rise in incomes, it can imply that either the interest rates are too low, resulting in improved mortgage rates, or that home loans are awarded more liberally, without consideration of the above discussed measures.

Thus, a good indicator if an impending housing crisis would be a combination of a high ownership ratio and an increased rate of subprime lending (loans made to customers with sub-optimal credit rating). These measures were all too evident in the period preceding the financial crisis, but were largely ignored, as many were placing their fate into the derivatives sector (discussed below), that has previously surpassed returns yielded by other more traditional markets.

Mortgage Backed Securities

Mortgage backed security is a term that encompasses a range of derivative instruments that are essentially debt obligations with a claim on cashflows arising from a pool of mortgages (in either private or a commercial sector). In essence, outstanding mortgage obligations from one or more issuers are grouped together and resold to investors, who, for the upfront lump sum payment, receive return based on mortgage repayments. The issuer uses the cash investment for issuance of new mortgages, whilst the investors expect high retunes, due to the popular belief that property is not only a safe investment, but one that should yield higher than average returns with lower expected fluctuations than seen in stock market. Numerous variations of the above concept have been developed, with the most popular described below.

nepovezanih nekretnina čiji ukupan prihod može biti stabilniji.

Podeljene hartije od vrednosti podržane hipotekom su finansijski instrumenti zasnovani na pulu hipoteka gde dinamika prevremene otplate nije poznata unapred. Glavne vrste su:

Hartije od vrednosti - samo glavnica (PO) primaju plaćanja samo po osnovu iznosa glavnice kredita, tj. nema plaćanja kamate. Slično obveznicama sa zero kuponom, njihova cena se utvrđuje po diskontu. Što je brža dinamika otplate, to je viši prinos po PO.

Hartije od vrednosti - samo kamata (IO) primaju samo plaćanja kamate po osnovu iznosa kredita, tj nema plaćanja glavnice. Pošto se glavnica otplaćuje kroz emisiju PO, vrednost kamatnih plaćanja po IO se smanjuje. Kada se otplati PO, nema daljih novčanih tokova za držaoca IO. To je vrlo nepredvidiva hartija od vrednosti, jer zavisi od dinamike prevremene otplate kao i od kamatnih stopa.

Pošto su, jasno, vrlo kompleksan i ne naročito transparentan finansijski instrument, one treba da su rezervisane za eksperte. Međutim, mnogi investitori su spekulisali sa ovim, naizgled sigurnim proizvodima, što je dovelo do krize globalnih razmera.

Diskusija

Na većini tržišta - stambeni sektor nije bio izuzetak - ciklusi visoke i niske aktivnosti, kao i manje ili više profitabilni periodi, nisu nepoznati. Stambeno tržište, globalno, kao i na pojedinim regionima i sektorima, istorijski je doživelo nekoliko padova. Većina se objašnjava ekonomskim uslovima, kamatnim stopama i inflacijom u zemljama u pitanju. Međutim, poreklo najnovije krize stambenog sektora mnogo je dublje, s tim što se SAD vide kao odgovorne ne samo za geografsko prostiranje već i za dalekosežni uticaj koji se osetio na tržištima akcija, sektoru gradnje, osiguranju, kreditima, sigurnim kreditima, da samo pomenemo neke.

Početkom milenijuma, kamatne stope u SAD su iznosile samo 1%, što je kombinovano sa politikom koja je pružala podsticaje za kupovinu kuća stvorilo nagli porast stambenih kredita. Mnogi su koristili prednosti takvog ambijenta opredeljujući se za hipoteke sa plivajućom stopom, koje više nisu mogli da otplaćuju kada su 2006. godine kamatne stope povećane na 5,25%. Ovaj efekat bi bio ograničen na ekonomiju SAD da nije bilo hartija od vrednosti podržanih hipotekom koje su bile pakovane i prodavane na međunarodnim tržištima kapitala investitorima koje je privukao potencijalno visok prinos, podržan rastom kamatnih stopa. Ovo je bio katalizator globalne ekonomske krize koja će tek videti znake poboljšanja. Tako će stambeno tržište i sredstva za njegovo finansiranje neizbežno proći kroz proces značajnih promena. Politika prudencijalnog kreditiranja, evaluiranje kredita i stroža mera dostupnosti ponovo će postati integralni deo procesa odobravanja hipoteka. U ovom slučaju, povratak u prošlost sigurno neće biti korak unazad, već korak prema zdravijoj i transparentnijoj ekonomiji.

Slučaj Srbije

Srbija je relativni početnik u sektoru hipoteka, sa stambenim kreditima koji, konkretno oni koji se nude kupcima po privi put, postaju šire dostupni tek od nedavno. Tako se može očekivati da zbog nepostojanja nacionalnih istorijskih podataka, neki globalni trendovi i ishodi utiču na standarde koji se usvajaju lokalno. Ipak, važno je uvideti da je ključ uspešnog upravljanja sektorom stambenih kredita u razumevanju specifičnosti srpske kulture i, na taj način, stava prema kupovini stanova. Pošto su se u Srbiji nekretnine oduvek smatrale za sigurno i dugoročno investiranje, mnoge postojeće nekretnine se nasleđuju a ne prodaju, tržište se razvija najvećim delom kroz novogradnju. Pri znatno nižoj likvidnosti stambenog tržišta,

Collateralized Mortgage Obligations (CMOs) **-** The purpose of CMOs is the distribution of risks and returns from a pool of mortgages tailored to meet client's needs. There are many variants of this basic concept, such as:

Sequential Pay Tranches are instruments where the CMO is split into several tranches ranked as A, B, C etc. The interest from the mortgage obligations is paid to each tranche proportionally to their investment, with the tranche A receiving all the income until it is fully repaid. It is followed by tranche B and so on. These are risky investments as the prepayment schedule, both in timing and the value of the cashflows, is unpredictable. However, property investors who would like a diversified portfolio, but find it impractical or impossible to achieve directly in the physical market find the CMOs attractive. The upfront cash investment that might purchase only a few specific properties whose mortgage payments could be very volatile creates through the CMO a proportional exposure in a large number of unrelated properties whose overall returns are likely to be more stable.

Stripped Mortgage Backed Securities are financial instruments based on a pool of mortgages, where the prepayment schedules are not known in advance. The main types are:

Principal Only (PO) securities receive payments based on principal loan amount only, i.e. there are no interest payments. Similarly to zero-coupon bonds, they are priced at discount. The faster the prepayment schedule, the higher the return of a PO.

Interest Only (IO) securities receive only the interest payments based on the loan amount, i.e. there is no principal payment. As the principal is repaid through the PO issue, the value if interest payments under IO decreases. Once the PO is repaid, no further cashflows are due to IO holder. It is a very unpredictable security, as it depends on prepayment schedules as well as interest rates.

As these are, clearly, very complex and not particularly transparent financial instrument, they should have been reserved for experts. However, many speculated in these, seemingly impossible to fail, products, resulting in the crisis of global proportions.

Discussion

In most markets - housing sector being no exception, cycles of high and low activity - as well as more and less profitable periods, are not uncommon. Housing market, globally, as well as in individual regions and sectors, has historically experienced several downturns. Most were explained in relation to economic conditions, interest rates and inflation in countries involved. However, the origins of the latest housing crisis go much deeper, with the US seen as responsible not only for its geographical extent by the far-reaching impact felt in stock markets, building sector, insurance, credit, secured loans, to name just a few. At the beginning of the millennium, the US interest rates reached only 1%; that combined with policies providing incentives for home purchases created an upsurge in home loans. Many took advantage of this environment by opting for floating rate mortgages, which they could no longer repay when in 2006 the interest rates increased to 5.25%. This effect would have been confined to US economy had it not been for the mortgage backed securities that were packaged and sold on international stock markets to investors attracted to potentially high yield, backed by the rise in interest rates. This was the catalyst for the global economic crisis that is yet to see signs of improvement. Thus, the housing market and the means of its financing will inevitably go through a process of significant changes. Prudent lending policies, credit evaluation and a more stringent affordability measures will, once again, become an integral part of mortgage approval process. In this case, returning to the past will certainly not be a backward move, but a step towards a healthier and more transparent economy.

Serbian case

Serbia is a relative beginner in the mortgage sector, with housing loans, in particular those offered to first time buyers, becoming more widely available only recently. Thus, it is to be expected that due to the lack of national historical data, some global trends and outcomes will affect the standards adopted locally. Nevertheless, it is important to recognise mnoge od pomenutih mera nisu primenljive lokalno. Dalje, nedostatak bilo kakvih pouzdanih podataka o obimu i profitabilnosti sektora rentiranja čini primenu bilo kojih postojećih finansijskih modela uzaludnom. Ovo čini upotrebu derivata podržanih hipotekom malo verovatnom, jer bi stvaranje pulova i tranširanje relativno malog broja hipoteka, kao i uspešno evaluiranje i plasiranje, bilo teško. Međutim, čak i sa strožim pravilima uvedenim u praksu kreditiranja, postoje mnoge mogućnosti za ekspanziju sada raspoloživog izbora proizvoda. Ključ za uspeh je uvažavanje aspekata koji mogu da se usvoje iz drugih zemalja i upotrebe na sopstvenu korist.

Zaključak

Postoji dobro poznata izreka u Velikoj Britaniji, “sigurno kao kuća”. Ono što se uzimalo za istinito, u današnjoj ekonomskoj klimi može mnogima da izgleda kao ironija. Ipak, nekretnine se još uvek smatraju za najsigurniji vid investiranja, nigde više nego u Srbiji. Sa brzom ekspanzijom stambene izgradnje raste i potreba za stambenim kreditima. Mnoge banke su uvažile ovaj trend i nude izbor hipoteka sa fiksnom, promenljivom ili plafoniranom promenljivom stopom. Pošto je ovo relativno novi sektor za investiranje, većina praksi i pravila koja regulišu kreditni rejting, dostupnost kredita i druge finansijske mere verovatno će biti usvojene sa drugih razvijenijih tržišta. Nedavna finansijska kriza učinila je da čak najaktivniji stambeni sektori zastanu i preispitaju svoje tradicionalne percepcije. Otuda, oprez će verovatno biti operativna reč u narednom periodu, ali to ne treba da zaustavi ovaj sektor u ekspanziji na širi krug proizvoda. U Srbiji, neke atraktivne alternative mogu da budu hipoteke denominovane u stranoj valuti, hipoteke na osnovu kapitala, delimično vlasništo i mnoge druge opcije koje mogu uspešno da inkorporišu lokalne stavove prema kućevlasništvu i finansiranju, dok u isto vreme teže ka modernijem i proaktivnom društvu.

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that the key to successful management of housing loan sector is in understanding specifics of Serbian culture and, thus, attitudes towards house purchase. Given that in Serbia, property was always considered safe and long-term investment, many existing properties are inherited, rather than sold, thus the market is expanded mostly through new developments. Given much lower liquidity of the housing market, many of the above discussed measures are not applicable locally. Moreover, lack of any reliable data on the scope and profitability of the rental sector, makes application of any extant financial models futile. This makes use of mortgage backed derivatives very unlikely, as pooling and tranching a relatively small number of mortgages, as well as successful evaluation and placing would be difficult. However, even with the more stringent rules imposed on lending practices, there are many opportunities for expansion of the currently available product range. The key to success is in recognising aspects that can be adopted from other countries and using them to our advantage.

Conclusion

There is a well known proverb in the UK, "Safe as houses." What used to be considered true, many may find ironic in today's economic climate. Nevertheless, property is still considered the safest form of investment, nowhere more so than in Serbia. With rapid expansion of residential development, the need for housing loans is on the rise. Many banks have recognised this trend and are offering a range of fixed, floating or capped floating mortgages. Given that this is a relatively new investment sector, most practices and rules governing credit rating, loan affordability and other financial measures are likely to be adopted form other more developed markets. The recent financial crisis has made even the most active housing sectors pause and reconsider their long held perceptions. Hence, prudence is likely to be the operative word in the period that follows, but that should not stop this sector from expansion through a wider range of products. In Serbia, some attractive alternatives could be mortgages denominated in foreign currency, equity release mortgages, part-ownership and many other options that can successfully incorporate local attitudes towards home ownership and finance, whilst at the same time striving for a more modern and proactive society.