Housing Market Trends and Mortgage Lending: An Interdisciplinary Review (2010-2023)

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Abstract

The housing market has significantly changed over the past decade, influenced by economic shifts, policy changes, and evolving consumer preferences. This study, which is inherently interdisciplinary and comprehensive, provides a narrative review of housing market trends and mortgage lending practices from the perspectives of architects and bankers. By examining 58 published journal articles from 2010 to 2023, this review aims to synthesise current knowledge and identify emerging patterns and challenges in the housing sector. The analysis reveals that economic fluctuations, regulatory environments, and technological advancements are pivotal in shaping market dynamics. Architects emphasise the importance of sustainable design and affordability, while bankers focus on risk management and financial accessibility. The findings underscore the crucial need for such interdisciplinary collaboration, highlighting the depth and breadth of the research and the importance of collective efforts in addressing housing affordability and market stability. This review contributes a deeper understanding of how architectural innovations and financial strategies can align to create resilient and inclusive housing markets.

Keywords: *Housing market trends, mortgage lending practices, architectural perspectives, banking perspectives, sustainable design, affordability, market stability.*

1. Introduction

The housing market is a complex and dynamic sector profoundly influenced by economic, social, and policy factors. Over the past decade, significant shifts have been observed in housing trends and mortgage lending practices, driven by economic conditions, technological advancements, and evolving consumer preferences. Architects and bankers, as pivotal and valued stakeholders, play crucial roles in shaping and financing the built environment. This narrative review aims to synthesise existing literature on housing market trends and mortgage lending practices from 2010 to 2023, offering insights from both architectural and financial perspectives. The findings of this study are particularly relevant to architects and bankers, as they underscore the importance of their roles in addressing housing affordability and market stability.

Economic fluctuations have been a major driver of housing market trends on a global scale. Periods of economic growth typically see increased demand for housing, rising property values, and expanded mortgage lending activities. Conversely, economic downturns often lead to decreased housing demand, falling property values, and stricter lending practices. For instance, the 2008 global financial crisis had a lasting impact on the housing market, leading to more cautious lending practices and a greater emphasis on regulatory compliance in subsequent years (Fields & Hodkinson, 2018; Loomans & Kaika, 2021). Post-crisis recovery periods have varied globally, with some regions experiencing rapid growth and others showing more gradual improvement. The economic recovery in certain regions has been characterised by aggressive property development and investment, while others have focused on policy reforms and regulatory adjustments to stabilise their housing markets.

Policy changes and regulatory frameworks also significantly impact the housing market and mortgage lending practices. Governments implement policies to promote affordable housing, stabilise housing markets, and protect consumers. These policies include interest rate adjustments, mortgage lending regulations, and housing subsidies. For example, the introduction of the Dodd-Frank Act in the United States aimed to increase transparency and reduce risk in mortgage lending (Agarwal et al., 2014; Park & Quercia, 2020). Similarly, various European countries have implemented policies to curb speculative investments and promote housing affordability (Muellbauer, 2018; Raberto et al., 2019). In addition, local and regional policies often address specific housing challenges, such as urban density, sprawl, and the preservation of affordable housing stock in high-demand areas.

Technological advancements have transformed the housing market and mortgage lending landscape. Innovations in construction technology, such as modular building and sustainable design, have allowed architects to create more efficient and environmentally friendly housing solutions (Thai et al., 2020; Thirunavukkarasu et al., 2021). Using prefabricated components and new construction materials has improved the speed and cost-efficiency of building processes, while sustainable practices have reduced the environmental impact of new developments. Additionally, the rise of digital platforms has revolutionised mortgage lending, making the process more accessible and streamlined for consumers. Online mortgage applications and automated underwriting systems have reduced the time and cost of obtaining a mortgage (Buchak et al., 2018; Huang, 2018). These digital innovations have also enabled lenders to reach a broader audience, including underserved communities that may have been excluded from traditional lending processes.

Architects and bankers offer unique perspectives on these trends. Architects emphasise the importance of sustainable and affordable housing design, advocating for innovations that reduce environmental impact and enhance living conditions. They are increasingly incorporating green technologies and materials that lower energy consumption and create healthier living environments for residents. On the other hand, bankers focus on risk management and financial stability, seeking to balance the needs of borrowers with the demands of regulatory compliance and profitability (Adams & Fuss, 2010; Beltratti & Morana, 2010; Muellbauer, 2015). Their role involves evaluating the creditworthiness of borrowers, structuring loan products that mitigate risk, and ensuring lending practices comply with evolving regulatory standards.

The intersection of these perspectives highlights the need for interdisciplinary collaboration to address the housing market's challenges. By integrating architectural innovation with sound financial practices, it is possible to create housing solutions that are both sustainable and economically viable. For example, sustainable housing projects often require significant upfront investment, which can be facilitated through innovative financial products and partnerships between developers and financial institutions. This review aims to provide a comprehensive understanding of these dynamics, drawing on a diverse body of literature to inform future research and practice in the housing sector. The collaboration between architects and bankers can lead to housing projects that meet residents' aesthetic and functional needs and ensure long-term financial sustainability and compliance with environmental standards.

The housing market's future will likely continue to be shaped by these intersecting factors, with ongoing technological advancements, economic fluctuations, and policy changes playing critical roles. As such, the continued collaboration between architects and bankers will be essential in developing innovative, sustainable, and financially viable housing solutions that can adapt to the evolving needs of society.

2. Methodology

The methodology for this study is rooted in a narrative review approach designed to synthesise and interpret findings from existing literature. This method was chosen due to its flexibility in integrating diverse sources of information and its capacity to provide a comprehensive overview of complex topics such as housing market trends and mortgage lending practices. A narrative review allows for the inclusion of various perspectives and disciplines, making it particularly suitable for a topic that intersects architecture and finance.

The selection of journal articles followed a systematic process to ensure the inclusion of relevant and high-quality studies. Articles published between 2010 and 2023 were considered to capture recent developments and trends in the housing market and mortgage lending. The databases searched included Google Scholar, JSTOR, and ScienceDirect, which were chosen for their extensive collections of academic publications. Keywords such as "housing market trends," "mortgage lending practices," "architectural perspectives," and "banking perspectives" guided the search, ensuring that the literature encompassed the key themes of the study (Grant & Booth, 2009).

The inclusion criteria were established to maintain the relevance and rigour of the review. Studies had to be peer-reviewed, published in reputable journals, and directly address aspects of housing markets or mortgage lending from an architectural or banking perspective. Articles

focusing on regions outside the selected period or not meeting the quality standards were excluded. This process resulted in selecting 48 journal articles that met all criteria and provided a robust foundation for analysis.

Data collection involved extracting relevant information from each article, focusing on findings related to economic fluctuations, regulatory impacts, technological advancements, and the perspectives of architects and bankers. The extracted data were then organised thematically to facilitate comparative analysis and synthesis. This thematic analysis enabled the identification of patterns, trends, and emerging issues within the housing market and mortgage lending practices (Lochmiller, 2021).

The analysis was conducted iteratively, with findings continually compared to ensure consistency and depth of understanding. This approach allowed for identifying gaps in the literature and generating insights into how architectural innovations and financial strategies can be integrated to address housing market challenges. The narrative review method thus provided a structured yet flexible framework to explore the multifaceted nature of the topic comprehensively.

3. Economic Fluctuations and Housing Market Trends

The housing market is significantly influenced by economic fluctuations, which dictate supply and demand dynamics, property values, and mortgage lending practices. Economic cycles, characterised by periods of expansion and contraction, profoundly affect housing markets. Understanding these effects is crucial for stakeholders, including policymakers, architects, and bankers, as it enables them to anticipate changes and adapt their strategies accordingly.

During periods of economic growth, the housing market typically experiences increased demand. Economic expansion often leads to higher employment rates, increased disposable income, and improved consumer confidence, all of which contribute to greater demand for housing. This surge in demand often results in rising property values and increased construction activities (Eickmeier & Hofmann, 2013; Guren et al., 2018). For instance, between 2013 and 2019, many countries witnessed robust housing market growth due to favourable economic conditions and low interest rates, which made borrowing more affordable and accessible (Crowe et al., 2013).

Conversely, economic downturns exert a negative impact on the housing market. Recessions lead to higher unemployment rates, reduced income levels, and decreased consumer confidence, dampening housing demand. Property values tend to decline, and mortgage lending becomes more restrictive as financial institutions adopt more conservative lending practices to mitigate risk (Mian & Sufi, 2014). The 2008 global financial crisis is a stark reminder of how severe economic disruptions can lead to widespread declines in housing markets. Following the crisis, many countries experienced decreased housing demand and falling property values, necessitating government interventions and policy adjustments to stabilise the market (Adelino et al., 2016; Reid et al., 2017).

Economic fluctuations also influence mortgage lending practices. Lenders are generally more willing to extend credit during economic booms, driven by optimistic economic outlooks and competitive pressures. This period often sees the introduction of innovative mortgage products designed to attract borrowers, including lower down payments and flexible interest rates (Gorton & Metrick, 2012). However, during economic downturns, lenders become more risk-

averse, tightening credit standards and increasing the cost of borrowing. This shift is often reflected in higher interest rates, larger down payment requirements, and more stringent eligibility criteria for borrowers (Justiniano et al., 2019).

The relationship between economic conditions and housing market trends is complex and multifaceted. Government policies and regulatory frameworks play a critical role in mediating this relationship. For example, monetary policies that adjust interest rates can influence borrowing costs and, by extension, housing demand. Fiscal policies, including housing subsidies and tax incentives, can also affect market dynamics by making housing more or less affordable for different segments of the population (Duca et al., 2011).

Technological advancements and societal changes further complicate the interplay between economic fluctuations and housing markets. Innovations in construction technology and shifts in consumer preferences towards sustainable and smart homes can mitigate some of the adverse effects of economic downturns by creating new opportunities and markets within the housing sector (Li et al., 2021; Kim et al., 2022; Meena et al., 2022).

4. Regulatory Environments and Policy Impacts

Regulatory environments and policy impacts shape housing markets and mortgage lending practices. These regulations and policies can promote stability, affordability, and accessibility within the housing sector. Governments worldwide implement various measures to achieve these goals, including adjusting interest rates, imposing lending regulations, and offering housing subsidies.

One of the primary tools governments use to influence the housing market is monetary policy. Central banks adjust interest rates to control inflation and stabilise the economy. Lower interest rates reduce borrowing costs, making mortgages more affordable and stimulating housing demand. Conversely, higher interest rates increase borrowing costs, dampening demand. For instance, during the global financial crisis of 2008, central banks slashed interest rates to unprecedented lows to spur economic recovery, significantly impacting mortgage lending and housing markets (Bernanke, 2013).

Fiscal policies, including tax incentives and housing subsidies, also play a crucial role in the housing market. These policies aim to make housing more affordable, especially for low- and middle-income households. For example, the U.S. government provides tax deductions on mortgage interest payments, making homeownership more attractive. Additionally, housing subsidies can help lower the cost of homeownership and rental housing, promoting greater accessibility (Sommer & Sullivan, 2018; Hilber & Turner, 2010).

Regulations targeting mortgage lending practices are essential for maintaining market stability and protecting consumers. These regulations often ensure that lending practices are responsible and borrowers are not overleveraged. The Dodd-Frank Wall Street Reform and Consumer Protection Act, enacted in the United States in 2010, introduced significant changes to mortgage lending practices. It aimed to increase transparency, reduce risk, and protect consumers from predatory lending practices (Agarwal et al., 2014; Park & Quercia, 2020). Similarly, the European Union implemented the Mortgage Credit Directive in 2014 to ensure responsible lending and protect consumers across member states (European Commission, 2014).

Zoning laws and land use regulations are additional tools that influence the housing market. These regulations control where and how new housing can be developed, impacting the supply and affordability of housing. In many urban areas, restrictive zoning laws have contributed to housing shortages and increased prices. Conversely, reforms that promote higher-density development can alleviate housing shortages and improve affordability. For instance, cities like Minneapolis have implemented zoning reforms for more multifamily housing, addressing housing supply constraints (Chakraborty, 2020; Kuhlmann, 2021).

The impact of these policies and regulations varies across different regions and market conditions. In rapidly growing urban areas, stringent regulations and high demand can exacerbate affordability issues. Conversely, policies might focus on stimulating demand and revitalising housing markets in regions with declining populations. The effectiveness of these measures depends on their design, implementation, and the broader economic context (Diamond & McQuade, 2016; Berger et al., 2020; Gyourko & Molloy, 2015).

Moreover, regulatory environments must adapt to emerging trends and challenges. For example, the rise of short-term rental platforms like Airbnb has prompted new regulations to address their impact on housing markets and communities. Cities worldwide are implementing measures to balance the benefits of short-term rentals with the need to maintain affordable housing and community stability (Wachsmuth & Weisler, 2018).

5. Technological Advancements in Housing

Technological advancements have profoundly transformed the housing sector, influencing construction practices and mortgage lending. Innovations in construction technology, sustainable design, and digital platforms have reshaped how housing is built, financed, and managed, addressing efficiency, affordability, and environmental impact.

One of the most significant technological advancements in housing is developing and adopting sustainable construction practices. Sustainable design focuses on reducing the environmental footprint of buildings through energy efficiency, using renewable materials, and improved waste management. Green building certifications, such as LEED (Leadership in Energy and Environmental Design), have become standard benchmarks for sustainability in construction. These certifications encourage using energy-efficient systems, renewable energy sources, and sustainable materials (Jamoussi et al., 2022; Istil et al., 2023). For instance, advancements in solar panel technology and energy-efficient HVAC (Heating, Ventilation, and Air Conditioning) systems have made it possible to construct buildings that consume significantly less energy and produce lower carbon emissions (Zuo & Zhao, 2014).

Modular construction is another technological innovation that has gained traction in recent years. This method involves constructing building sections off-site in a controlled factory environment before assembling them on-site. Modular construction offers several benefits, including reduced construction time, cost savings, and improved quality control. Additionally, it minimises the environmental impact by reducing waste and energy consumption during construction (Lawson et al., 2012; Lacey et al., 2018). Companies like Katerra and Factory OS are at the forefront of this technology, providing scalable solutions to meet the growing demand for affordable housing.

Digital technologies have also revolutionised the housing sector, particularly in mortgage lending. The rise of fintech (financial technology) has introduced digital platforms that

streamline the mortgage application and approval process. These platforms use algorithms and data analytics to assess creditworthiness, automate underwriting, and reduce the time required to process mortgage applications. As a result, borrowers can receive mortgage approvals faster and with greater transparency (Buchak et al., 2018; Huang, 2018). Moreover, blockchain technology is being explored for its potential to enhance security and transparency in real estate transactions, reducing fraud and ensuring the integrity of property records (Saberi et al., 2019).

Smart home technologies have further transformed the housing experience, offering residents greater control over their living environments. Smart home devices, such as thermostats, lighting systems, and security cameras, can be controlled remotely via smartphones and other devices. These technologies improve energy efficiency, enhance security, and provide convenience for homeowners (Balta-Ozkan et al., 2013; Rio et al., 2020). Integrating Internet of Things (IoT) devices in homes enables real-time monitoring and management of various systems, leading to optimised energy use and improved comfort.

Technological advancements have also facilitated the emergence of new housing models, such as co-living and micro-apartments. These models cater to the needs of urban populations, offering affordable and flexible living arrangements. Co-living spaces, for example, provide shared amenities and foster community living, addressing the social isolation often associated with urban living (Mellner et al., 2021). Micro-apartments offer compact, efficient living spaces that maximise functionality in small areas, making them suitable for densely populated urban environments.

6. Architectural Perspectives

Architects play a crucial role in shaping the built environment, and their perspectives on housing are instrumental in addressing sustainability, affordability, and functionality challenges. The architectural perspective on housing encompasses a holistic view that integrates design innovation, environmental stewardship, and social responsibility to create spaces that enhance the quality of life. By focusing on these key areas, architects contribute significantly to developing housing solutions that meet the needs of contemporary society.

Sustainability is a core focus for architects in the housing sector. Sustainable design principles aim to minimise the environmental impact of buildings throughout their lifecycle, from construction to operation and demolition. This involves using energy-efficient systems, renewable materials, and waste-reduction techniques. For instance, architects increasingly incorporate passive solar design, green roofs, and advanced insulation materials to reduce energy consumption in residential buildings (Gou & Xie, 2017). These strategies are essential in reducing the carbon footprint of buildings and promoting a more sustainable future. Sustainable design helps reduce the carbon footprint and promotes healthier living environments by improving indoor air quality and natural lighting (Iyengar et al., 2010; Cole, 2012). Improved indoor air quality can lead to better health outcomes for residents, while natural lighting enhances the overall ambience and can positively affect mental well-being.

Architects ' affordability is another critical concern, especially in urban areas with soaring housing costs. To address this issue, architects are exploring innovative solutions that maximise space efficiency and reduce construction costs. Modular and prefabricated housing, for example, offers a cost-effective alternative to traditional construction methods. These approaches involve manufacturing and assembling components off-site, significantly reducing

construction time and costs (Lawson et al., 2012). Prefabrication allows for more precise construction in a controlled environment, minimising waste and increasing the efficiency of the building process. Additionally, architects are designing smaller, more efficient living spaces that cater to the needs of modern urban dwellers without compromising on functionality and comfort (Lacey et al., 2018). These compact designs often include multifunctional furniture and clever storage solutions that maximise limited space.

Inclusivity and accessibility are also emphasised in contemporary housing design. Universal design principles advocate for creating environments accessible to all individuals, regardless of age, disability, or other factors. This includes step-free entrances, wider doorways, and adaptable living spaces that accommodate different needs over time (Imrie, 2012). By incorporating these principles, architects can ensure that housing is functional, equitable, and adaptable to the population's diverse needs. Inclusive design helps create communities where all residents feel welcome and can live independently and comfortably.

Community engagement and social sustainability are integral to the architectural perspective on housing. Architects recognise the importance of involving local communities in the design process to create spaces that reflect their needs and values. Participatory design approaches enable residents to contribute their insights and preferences, leading to more responsive and contextually appropriate housing solutions (Kersten et al., 2015). This collaborative process helps foster a sense of ownership and belonging among residents, which is crucial for the long-term success and sustainability of housing projects. Community engagement ensures the final design is tailored to the specific cultural and social context, enhancing its acceptance and relevance.

Moreover, architects leverage technological advancements to enhance the design and construction process. Building Information Modelling (BIM) and other digital tools enable architects to create more accurate and efficient designs, reducing errors and optimising resource use. These technologies facilitate better collaboration among stakeholders, improving housing projects' overall quality and efficiency (Ding et al., 2019; He et al., 2021). BIM allows for detailed visualisation and simulation of building performance, helping architects and engineers make informed decisions throughout the project lifecycle. Additionally, digital tools can streamline the coordination of various trades and disciplines involved in construction, reducing the likelihood of conflicts and delays.

Integrating these various perspectives and approaches ensures that architects can address the complex and interconnected challenges facing the housing sector today. By prioritising sustainability, affordability, inclusivity, and community engagement, architects can create housing solutions that are functional, cost-effective, environmentally responsible, and socially inclusive. This comprehensive approach is essential for meeting the evolving needs of urban populations and promoting sustainable development in the housing sector (Chen et al., 2019).

7. Banking Perspectives

Banking perspectives on housing and mortgage lending practices focus on risk management, financial stability, and the accessibility of mortgage products. Banks and financial institutions play a crucial role in determining the availability and affordability of housing through their lending practices and the financial products they offer. Economic conditions, regulatory frameworks, and technological advancements shape their approaches to mortgage lending.

Risk management is a fundamental aspect of banking perspectives on mortgage lending. Financial institutions must assess potential borrowers' creditworthiness to minimise the risk of default. This involves evaluating borrowers' income, credit history, employment status, and other financial obligations. Advanced credit scoring models and data analytics are employed to enhance the accuracy of these assessments (Agarwal et al., 2014; Park & Quercia, 2020). By effectively managing risk, banks can maintain financial stability and ensure the sustainability of their lending practices. This careful assessment helps prevent defaults, which can have a cascading effect on the overall financial system, potentially leading to a crisis similar to the one witnessed in 2008.

Financial stability is a key concern for banks, particularly in the context of housing markets that are prone to volatility. During periods of economic growth, banks may be more inclined to extend credit and offer favourable mortgage terms. This expansion often leads to increased homeownership rates and stimulates economic growth as housing-related expenditures boost various sectors of the economy (Voigtländer, 2014). However, banks may adopt more conservative lending practices during economic uncertainty or downturns to safeguard their financial health. The 2008 financial crisis highlighted the importance of prudent lending practices and the need for regulatory oversight to prevent the kind of excessive risk-taking that led to widespread defaults and financial instability (Mian & Sufi, 2014). Post-crisis regulations, such as the Dodd-Frank Act in the United States, have introduced stricter lending standards and increased transparency to mitigate systemic risks (Agarwal et al., 2014; Park & Quercia, 2020). These regulations ensure that banks hold sufficient capital reserves to cover potential losses and maintain liquidity, which is crucial during economic downturns.

The accessibility of mortgage products is another critical aspect of banking perspectives. Banks aim to offer a range of mortgage products that cater to different population segments, including first-time homebuyers, low-income families, and high-net-worth individuals. Adjustable-rate mortgages, fixed-rate mortgages, and government-backed loans are some products designed to meet diverse borrower needs. The introduction of digital platforms has further enhanced accessibility by streamlining the mortgage application process and reducing barriers to entry. Online mortgage applications and automated underwriting systems have made it easier for consumers to navigate the mortgage process and obtain financing (Buchak et al., 2018; Huang, 2018). These digital platforms expedite the loan approval process and provide greater transparency, allowing borrowers to understand the terms and conditions more clearly.

Technological advancements have revolutionised mortgage lending, making it more efficient and customer-friendly. Fintech innovations, such as peer-to-peer lending platforms and blockchain technology, transform traditional banking practices. These technologies enable faster processing times, lower transaction costs, and greater transparency in mortgage transactions (Saberi et al., 2019). Moreover, digital tools allow banks to offer personalised mortgage solutions based on real-time data analysis, enhancing customer satisfaction and loyalty. For example, blockchain technology can provide a secure and immutable record of property transactions, reducing the risk of fraud and increasing trust in the mortgage process (Nakamoto, 2008).

The banking sector's approach to mortgage lending also includes a focus on financial education and counselling. Banks often provide resources and programs to help consumers understand the mortgage process, manage their finances, and make informed decisions. Financial literacy

initiatives aim to reduce default rates by ensuring borrowers are well-equipped to handle their mortgage obligations (Collins & O'Rourke, 2010; Huston, 2012). These programs can include workshops, online courses, and personalised counselling sessions that cover topics such as budgeting, credit management, and the long-term financial responsibilities of homeownership.

In addition to these efforts, banks increasingly recognise the importance of sustainable lending practices. Environmental, social, and governance (ESG) criteria are becoming integral to lending decisions, reflecting a growing awareness of the broader impacts of mortgage lending on communities and the environment. Sustainable mortgage products, such as green mortgages, offer lower interest rates for homes that meet certain energy efficiency standards, encouraging sustainable building practices (Kiesel & von Hohenberg, 2019). This approach aligns with global efforts to combat climate change and promote sustainable development.

8. Interdisciplinary Collaboration

Interdisciplinary collaboration between architects and bankers is essential in addressing the multifaceted challenges of the housing market. By integrating architectural innovation with financial expertise, it is possible to develop sustainable, affordable, and efficient housing solutions that meet the diverse needs of society. This collaboration involves combining the strengths of both professions to optimise design, enhance financial feasibility, and ensure regulatory compliance.

Architects and bankers bring distinct but complementary perspectives to housing development. Architects focus on design, functionality, and sustainability, aiming to create aesthetically pleasing, environmentally friendly, and liveable buildings. They emphasise the importance of using sustainable materials, incorporating energy-efficient systems, and designing spaces that promote the well-being of occupants (Iyengar et al., 2010; Cole, 2012; Chen et al., 2019). On the other hand, bankers concentrate on the financial aspects, including risk assessment, funding, and ensuring the profitability of housing projects. They are responsible for evaluating the economic viability of projects, structuring financial deals, and managing the associated risks (Adams & Fuss, 2010; Beltratti & Morana, 2010; Muellbauer, 2015).

One of the key benefits of interdisciplinary collaboration is the ability to develop housing projects that are both architecturally innovative and financially viable. By working together from the initial stages of a project, architects and bankers can align their goals and ensure that design concepts are economically feasible. This collaborative approach allows for the early identification and mitigation of potential financial risks, ensuring that projects remain within budget and on schedule (Kovács & Spens, 2011; Brysch & Czischke, 2021). For example, sustainable design features, such as solar panels and energy-efficient HVAC systems, may have higher upfront costs but can lead to significant long-term savings on energy bills. Bankers can help structure financing to accommodate these initial investments while highlighting their long-term benefits (Buchak et al., 2018; Huang, 2018).

Interdisciplinary collaboration also facilitates compliance with regulatory requirements. Housing projects must adhere to local, state, and federal regulations, including zoning laws, building codes, and environmental standards. Architects and bankers must work together to navigate this complex regulatory landscape, ensuring that projects meet all legal requirements and obtain the necessary approvals (Diamond & McQuade, 2016; Berger et al., 2020; Gyourko

& Molloy, 2015). By integrating their expertise, they can streamline the approval process and avoid costly delays or legal issues.

Moreover, collaboration between architects and bankers can lead to innovative financing solutions that enhance housing accessibility. For instance, they can develop mortgage products tailored to the needs of different demographic groups, such as first-time homebuyers, low-income families, and seniors. These products might include lower down payments, adjustable interest rates, or government-backed guarantees, making homeownership more attainable for a broader range of people (Collins & O'Rourke, 2010; Huston, 2012).

Case studies of successful interdisciplinary projects highlight the benefits of collaboration. For example, the Via Verde project in New York City, a partnership between architects, developers, and financial institutions, showcases how sustainable design and innovative financing can create affordable housing that serves the community's needs. The project features green roofs, rainwater harvesting systems, and energy-efficient appliances, demonstrating that high-quality, sustainable housing can be affordable and financially viable (Du & Zhang, 2020).

9. Emerging Patterns and Challenges

The housing market is a dynamic sector that continually evolves in response to economic, social, and technological changes. Over the past decade, several emerging patterns have shaped housing market trends, while various challenges have persisted, requiring innovative solutions and interdisciplinary collaboration.

One significant pattern is the increasing emphasis on sustainability. Environmental concerns have driven the demand for green buildings and sustainable housing solutions. This trend is not only about reducing the environmental footprint but also about creating healthier living environments. Sustainable housing incorporates energy-efficient systems, renewable energy sources, and environmentally friendly materials. The push for green building certifications like LEED and BREEAM has further reinforced this trend, as homeowners and developers recognise the long-term benefits of sustainable design (Jamoussi et al., 2022; Istil et al., 2023). Despite the growing interest in sustainability, the challenge lies in balancing the higher upfront costs associated with sustainable construction with the long-term savings and environmental benefits (Gou & Xie, 2017; Jain & Pathak, 2018; Mahmoud & Ismaeel, 2019).

Another emerging pattern is the shift towards urbanisation. Urban areas attract large populations due to better economic opportunities and amenities. This urban migration has intensified the demand for housing in cities, leading to higher property prices and increased pressure on urban infrastructure (Sommer & Sullivan, 2018; Hilber & Turner, 2010). Consequently, there is a growing need for innovative housing solutions to accommodate dense populations without compromising quality of life. Urban planners and architects are exploring concepts like high-density housing, mixed-use developments, and smart cities to address these challenges (Burukhina et al., 2020).

Technological advancements have also significantly impacted the housing market. The rise of smart home technologies has transformed how people interact with their living spaces. Smart devices for home automation, security, and energy management are becoming commonplace, enhancing convenience and efficiency for homeowners (Balta-Ozkan et al., 2013; Rio et al., 2020). However, the challenge lies in ensuring the interoperability and security of these

technologies and making them accessible to a broader population, including those in lower-income brackets (Lee et al., 2021).

Affordability remains a persistent challenge in the housing market. The gap between housing costs and income levels has widened, making it difficult for many individuals and families to afford adequate housing. This issue is particularly pronounced in major urban centres, where high demand and limited supply increase prices (Quigley & Raphael, 2004). Governments and policymakers are grappling with providing affordable housing while ensuring it meets quality and sustainability standards. Solutions such as affordable housing initiatives, rent controls, and subsidies are being explored, but their effectiveness varies widely depending on the local context and implementation (Diamond & McQuade, 2016; Berger et al., 2020; Gyourko & Molloy, 2015).

Another challenge is the regulatory environment, which can either facilitate or hinder housing development. Stringent zoning laws, building codes, and lengthy approval processes can delay projects and increase costs. While these regulations are necessary to ensure safety and quality, there is a need for a balanced approach that promotes efficiency and innovation in housing development (Chakraborty, 2020; Kuhlmann, 2021).

The COVID-19 pandemic has introduced new patterns and challenges in the housing market. The pandemic has highlighted the importance of home as a place of work, education, and refuge, leading to changes in housing preferences. There is a greater demand for homes with more space, better internet connectivity, and flexible living arrangements. However, the economic impact of the pandemic has exacerbated affordability issues and created uncertainty in the housing market (Del Giudice et al., 2020; McCord et al., 2022).

10. Discussion

10.1 Summary of Key Findings

This narrative review has synthesised the key trends and practices in the housing market and mortgage lending from 2010 to 2023. The findings reveal several critical insights:

i. **Economic Fluctuations:** Economic conditions significantly influence housing demand, property values, and lending practices. Periods of economic growth led to increased housing demand and property values, while economic downturns resulted in stricter lending practices and reduced housing activity (Fields & Hodkinson, 2018; Loomans & Kaika, 2021).
ii. **Regulatory Environments:** Effective regulatory frameworks are crucial for maintaining market stability and protecting consumers. Policies such as the Dodd-Frank Act in the United States and the Mortgage Credit Directive in the European Union significantly promote transparency and responsible lending practices (Agarwal et al., 2014; Park & Quercia, 2020).
iii. **Technological Advancements:** Innovations in construction technology and digital mortgage platforms have transformed the housing sector, making housing more efficient, accessible, and environmentally friendly. Sustainable construction techniques and smart home technologies are increasingly being adopted to enhance the living experience and reduce environmental impact (Thai et al., 2020; Thirunavukkarasu et al., 2021; Buchak et al., 2018).

iv. **Interdisciplinary Collaboration:** The collaboration between architects and bankers is essential in addressing housing market challenges. Architects focus on sustainable design and affordability, while bankers emphasise risk management and financial stability. Their combined efforts can lead to innovative and financially viable housing solutions (Adams & Fuss, 2010; Beltratti & Morana, 2010; Muellbauer, 2015).
v. **Emerging Patterns:** Urbanization, sustainability, and technological integration are key emerging patterns in the housing market. However, persistent challenges such as affordability and regulatory constraints remain significant issues that must be addressed. The COVID-19 pandemic has further highlighted the need for adaptable and resilient housing solutions (Cohen, 2021).

10.2 Implications for Practitioners

The findings of this review have several practical implications for stakeholders in the housing sector:

i. **Enhanced Collaboration:** Practitioners, including architects and bankers, should enhance interdisciplinary collaboration to ensure that housing projects are both innovative and financially viable. Early collaboration can help align design concepts with financial feasibility, leading to more successful outcomes.
ii. **Adoption of Sustainable Practices:** Architects and developers should prioritise sustainable construction techniques and green building certifications to create environmentally friendly and energy-efficient housing. Sustainable design benefits the environment and improves the quality of life for residents.
iii. **Utilization of Digital Platforms:** Mortgage lenders and financial institutions should continue developing and expanding digital mortgage platforms to streamline the application process. These platforms can improve accessibility and transparency, making it easier for consumers to obtain financing.
iv. **Policy Implementation:** Policymakers should formulate and implement inclusive policies that promote housing affordability, particularly in urban areas with high demand. Zoning reforms, tax incentives, and subsidies can help address affordability issues and support sustainable development.
v. **Adapting to Change:** Practitioners should remain adaptable to changing housing preferences and needs, especially during the COVID-19 pandemic. Designing homes that accommodate flexible living and working arrangements can enhance resilience and meet the evolving demands of consumers.

10.3 Implications for Researchers

The review also highlights several areas for future research:

i. **Exploring Regional Differences:** Future research should explore housing market trends and mortgage lending practices in regions beyond the United States and Europe. Understanding regional variations can provide a more comprehensive view of global housing dynamics.
ii. **Evaluating Technological Impact:** Researchers should evaluate the long-term impact of technological advancements on the housing market, including the effectiveness of smart home technologies and digital mortgage platforms. Studies can examine how these technologies influence consumer behaviour, affordability, and market stability.

iii. **Policy Effectiveness:** Further research is needed to assess the effectiveness of various regulatory and policy measures in promoting housing affordability and stability. Comparative studies can help identify best practices and inform policy decisions.
iv. **Interdisciplinary Approaches:** Researchers should explore interdisciplinary approaches to housing solutions, examining how collaboration between architects, bankers, policymakers, and other stakeholders can address complex challenges. Case studies of successful projects can provide valuable insights.
v. **Impact of Societal Changes:** The long-term impact of societal changes, such as the COVID-19 pandemic, on housing preferences and market dynamics warrants further investigation. Research can focus on how these changes influence design, construction, and financing practices.

11. Conclusion

Complex interactions among economic conditions, regulatory environments, technological advancements, and social changes have shaped the housing market's evolution over the past decade. This narrative review underscores the significant impact of these factors on housing demand, property values, and lending practices. Architects emphasise sustainable design, affordability, and inclusivity, while bankers focus on risk management and financial stability. Technological innovations have enhanced efficiency and accessibility in construction and mortgage lending, but challenges remain in ensuring broad access and security. The COVID-19 pandemic has further highlighted the need for adaptable and resilient housing solutions. Interdisciplinary collaboration between architects and bankers is essential for developing innovative, sustainable, and financially viable housing projects that meet diverse population needs. The insights from this review provide a foundation for future research and practical approaches in the housing sector, aiming for a stable and resilient housing market.

References

Adams, Z., & Füss, R. (2010). Macroeconomic determinants of international housing markets. *Journal of Housing Economics, 19(1),* 38-50. https://doi.org/10.1016/j.jhe.2009.10.005

Adelino, M., Schoar, A., & Severino, F. (2016). Loan originations and defaults in the mortgage crisis: The role of the middle class. *Review of Financial Studies, 29(7),* 1635-1670. https://doi.org/10.1093/rfs/hhw019

Agarwal, S., Benmelech, E., Bergman, N., & Seru, A. (2012). *Did the Community Reinvestment Act (CRA) Lead to Risky Lending?* ERN: Behavioural Finance (Microeconomics) (Topic). https://doi.org/10.2139/ssrn.2172549. https://doi.org/10.1016/j.jfineco.2013.12.009

Balta-Ozkan, N., Davidson, R., Bicket, M., & Whitmarsh, L. (2013). The development of the smart homes market in the UK. *Energy, 60,* 361-372. https://doi.org/10.1016/j.energy.2013.08.004

Beltratti, A., & Morana, C. (2010). International house prices and macroeconomic fluctuations. *Journal of Banking and Finance, 34,* 533-545. https://doi.org/10.1016/J.JBANKFIN.2009.08.020.

Berger, D., Turner, N., & Zwick, E. (2020). Stimulating housing markets. *The Journal of Finance, 75(1),* 277-321. https://doi.org/10.2139/ssrn.2826598.

Bernanke, B. (2013). *The Federal Reserve and the Financial Crisis.* Princeton: Princeton University Press. https://doi.org/10.1515/9781400847167

Brysch, S., & Czischke, D. (2021). Affordability through design: the role of building costs in collaborative housing. *Housing Studies, 37,* 1800 - 1820. https://doi.org/10.1080/02673037.2021.2009778.

Buchak, G., Matvos, G., Piskorski, T., & Seru, A. (2018). Fintech, regulatory arbitrage, and the rise of shadow banks. *Journal of Financial Economics, 130(3),* 453-483. Journal of Financial Economics. https://doi.org/10.1016/j.jfineco.2018.03.011.

Burukhina, O. S., Tsarkova, V. S., & Maltceva, I. N. (2020, February). Comprehensive approach to multi comfort urban space design in high-density of milan development. In *IOP Conference Series: Materials Science and Engineering, 753(4),* 042071. IOP Publishing. https://doi.org/10.1088/1757-899X/753/4/042071.

Chakraborty, A. (2020). Calls to End All Single-Family Zoning Need More Scrutiny. *Journal of the American Planning Association, 86,* 123 - 124. https://doi.org/10.1080/01944363.2019.1689015.

Chen, J., Brager, G. S., Augenbroe, G., & Song, X. (2019). Impact of outdoor air quality on the natural ventilation usage of commercial buildings in the US. *Applied Energy, 235,* 673-684. https://doi.org/10.1016/J.APENERGY.2018.11.020.

Cole, R. J. (2012). Regenerative design and development: Current theory and practice. *Building Research & Information, 40(1),* 1-6. https://doi.org/10.1080/09613218.2012.620682

Collins, J. M., & O'Rourke, C. M. (2010). Financial education and counselling—Still holding promise. *Journal of Consumer Affairs, 44(3),* 483-498. https://doi.org/10.1111/j.1745-6606.2010.01179.x

Crowe, C., Dell'Ariccia, G., Igan, D., & Rabanal, P. (2013). How to deal with real estate booms: Lessons from country experiences. *Journal of financial stability, 9(3),* 300-319. https://doi.org/10.1016/j.jfs.2013.05.003

Del Giudice, V., De Paola, P., & Del Giudice, F. P. (2020). COVID-19 infects real estate markets: Short and mid-run effects on housing prices in Campania region (Italy). *Social sciences, 9(7),* 114. https://doi.org/10.3390/socsci9070114.

Diamond, R., & McQuade, T. (2016). Who Wants Affordable Housing in Their Backyard? An Equilibrium Analysis of Low-Income Property Development. *Journal of Political Economy, 127,* 1063 - 1117. https://doi.org/10.1086/701354.

Ding, Z., Liu, S., Liao, L., & Zhang, L. (2019). A digital construction framework integrating building information modeling and reverse engineering technologies for renovation projects. *Automation in construction, 102,* 45-58. https://doi.org/10.1016/J.AUTCON.2019.02.012.

Du, M., & Zhang, X. (2020). Urban greening: A new paradox of economic or social sustainability? *Land Use Policy, 92,* 104487. https://doi.org/10.1016/j.landusepol.2020.104487.

Duca, J. V., Muellbauer, J., & Murphy, A. (2011). House prices and credit constraints: Making sense of the US experience. *Economic Journal, 121(552),* 533-551. https://doi.org/10.1111/j.1468-0297.2011.02430.x

Eickmeier, S., & Hofmann, B. (2013). Monetary policy, housing booms, and financial (im) balances. *Macroeconomic dynamics, 17(4),* 830-860. https://doi.org/10.1017/S1365100511000721.

Fields, D., & Hodkinson, S. (2018). Housing Policy in Crisis: An International Perspective. *Housing Policy Debate, 28,* 1 - 5. https://doi.org/10.1080/10511482.2018.1395988.

Gorton, G. B., & Metrick, A. (2012). Securitised banking and the run-on repo. *Journal of Financial Economics, 104(3)*, 425-451. https://doi.org/10.1016/j.jfineco.2011.03.016

Gou, Z., & Xie, X. (2017). Evolving green building: triple bottom line or regenerative design? *Journal of Cleaner Production, 153,* 600-607. https://doi.org/10.1016/j.jclepro.2015.12.090

Grant, M. J., & Booth, A. (2009). A typology of reviews: An analysis of 14 review types and associated methodologies. *Health Information & Libraries Journal, 26(2),* 91-108. https://doi.org/10.1111/j.1471-1842.2009.00848.x

Guren, A. M., McKay, A., Nakamura, E., & Steinsson, J. (2021). Housing wealth effects: The long view. *The Review of Economic Studies, 88(2),* 669-707. https://doi.org/10.3386/W24729.

Gyourko, J., & Molloy, R. (2015). *Regulation and housing supply*. In Handbook of regional and urban economics, 5, 1289-1337. Elsevier. https://doi.org/10.1016/B978-0-444-59531-7.00019-3

He, R., Li, M., Gan, V., & Ma, J. (2021). BIM-enabled computerised design and digital fabrication of industrialised buildings: A case study. *Journal of Cleaner Production, 278,* 123505. https://doi.org/10.1016/j.jclepro.2020.123505.

Hilber, C., & Turner, T. (2010). The Mortgage Interest Deduction and its Impact on Homeownership Decisions. *Review of Economics and Statistics, 96,* 618-637. https://doi.org/10.1162/REST_a_00427.

Huang, J. (2018). Banking and shadow banking. *Journal of Economic Theory, 178,* 124-152. https://doi.org/10.1016/j.jet.2018.09.003.

Huston, S. (2012). Financial literacy and the cost of borrowing. *International Journal of Consumer Studies, 36,* 566-572. https://doi.org/10.1111/J.1470-6431.2012.01122.X.

Imrie, R. (2012). Universalism, universal design and equitable access to the built environment. *Disability and Rehabilitation, 34,* 873 - 882. https://doi.org/10.3109/09638288.2011.624250.

Istil, S. A., Górecki, J., & Diemer, A. (2023). Study on certification criteria of building energy and environmental performance in the context of achieving climate neutrality. *Sustainability, 15(3),* 2770. https://doi.org/10.3390/su15032770.

Iyengar, Ar. K. S. Mukunda. 2010. "Sustainable Architecture." *The International Journal of Environmental, Cultural, Economic, and Social Sustainability: Annual Review 6 (2):* 209-228. https://doi:10.18848/1832-2077/CGP/v06i02/54756.

Jain, M., & Pathak, K. K. (2018). Thermal modelling of insulator for energy saving in existing residential building. *Journal of Building Engineering, 19,* 62-68. https://doi.org/10.1016/J.JOBE.2018.04.012.

Jamoussi, B., Abu-Rizaiza, A., & AL-Haij, A. (2022). Sustainable building standards, codes and certification systems: The status quo and future directions in Saudi Arabia. *Sustainability, 14(16),* 10314. https://doi.org/10.3390/su141610314.

Justiniano, A., Primiceri, G. E., & Tambalotti, A. (2019). Credit supply and the housing boom. *Journal of Political Economy, 127(3),* 1317-1350. https://doi.org/10.1086/701784

Kersten, W., Crul, M., Geelen, D., Meijer, S., & Franken, V. (2015). Engaging beneficiaries of sustainable renovation – exploration of design-led participatory approaches. *Journal of Cleaner Production, 106,* 690-699. https://doi.org/10.1016/J.JCLEPRO.2014.07.060.

Kim, D., Yoon, Y., Lee, J., Mago, P. J., Lee, K., & Cho, H. (2022). Design and implementation of smart buildings: A review of current research trend. *Energies, 15(12),* 4278. https://doi.org/10.3390/en15124278.

Kovács, G., & Spens, K. M. (2011). Trends and developments in humanitarian logistics – a gap analysis. *International Journal of Physical Distribution & Logistics Management, 41(1),* 32-45. https://doi.org/10.1108/09600031111101411

Kuhlmann, D. (2021). Upzoning and Single-Family Housing Prices. *Journal of the American Planning Association, 87,* 383 - 395. https://doi.org/10.1080/01944363.2020.1852101.

Lacey, A., Chen, W., Hao, H., & Bi, K. (2018). Structural response of modular buildings – An overview. *Journal of building engineering, 16,* 45-56. https://doi.org/10.1016/J.JOBE.2017.12.008.

Lawson, R. M., Ogden, R. G., & Bergin, R. (2012). Application of modular construction in high-rise buildings. *Journal of architectural engineering, 18(2),* 148-154. https://doi.org/10.1061/(ASCE)AE.1943-5568.0000057

Lee, E., Seo, Y., Oh, S., & Kim, Y. (2021). A Survey on Standards for Interoperability and Security in the Internet of Things. *IEEE Communications Surveys & Tutorials, 23,* 1020-1047. https://doi.org/10.1109/COMST.2021.3067354.

Li, C., Chen, Z., Xue, F., Kong, X., Xiao, B., Lai, X., & Zhao, Y. (2021). A blockchain- and IoT-based smart product-service system for the sustainability of prefabricated housing construction. *Journal of Cleaner Production, 286,* 125391. https://doi.org/10.1016/j.jclepro.2020.125391.

Lochmiller, C. R. (2021). Conducting thematic analysis with qualitative data. *The Qualitative Report, 26(6),* 2029-2044. https://doi.org/10.46743/2160-3715/2021.5008.

Loomans, D., & Kaika, M. (2021). Mortgage regulation as a quick fix for the financial crisis: standardised lending and risky borrowing in Canada and the Netherlands. *International Journal of Housing Policy, 23,* 24 - 46. https://doi.org/10.1080/19491247.2021.1946639.

Mahmoud, S., & Ismaeel, W. (2019). Developing sustainable design guidelines for roof design in a hot arid climate. *Architectural Science Review, 62,* 507 - 519. https://doi.org/10.1080/00038628.2019.1665984.

McCord, M., Lo, D., McCord, J., Davis, P., Haran, M., & Turley, P. (2022). The impact of COVID-19 on house prices in Northern Ireland: price persistence, yet divergent? *Journal of Property Research, 39(3),* 237-267. Journal of Property Research, 39, 237 - 267. https://doi.org/10.1080/09599916.2021.2023610.

Meena, C. S., Kumar, A., Jain, S., Rehman, A. U., Mishra, S., Sharma, N. K., ... & Eldin, E. T. (2022). Innovation in green building sector for sustainable future. *Energies, 15(18),* 6631. https://doi.org/10.3390/en15186631.

Mellner, C., Niemi, M., Pollanen, E., & Osika, W. (2021). Enhancing social and individual sustainability in urban co-living. *International Journal of Housing Markets and Analysis, 14(5),* 1129-1144.. https://doi.org/10.1108/IJHMA-09-2020-0117.

Mian, A., & Sufi, A. (2014). What explains the 2007–2009 drop in employment? *Econometrica, 82(6),* 2197-2223. https://doi.org/10.3982/ECTA10453

Muellbauer, J. (2015). Housing and the Macroeconomy: Inflation and the Financial Accelerator. *Journal of Money, Credit and Banking, 47,* 51-58. https://doi.org/10.1111/JMCB.12190.

Muellbauer, J. (2018). Housing, debt and the economy: A tale of two countries. *National Institute Economic Review, 245,* R20-R33. https://doi.org/10.1177/002795011824500112

Park, K. A., & Quercia, R. G. (2020). Who lends beyond the red line? The community reinvestment act and the legacy of redlining. *Housing Policy Debate, 30(1),* 4-26. https://doi.org/10.1080/10511482.2019.1665839.

Quigley, J. M., & Raphael, S. (2004). Is housing unaffordable? Why isn't it more affordable? *Journal of Economic Perspectives, 18(1),* 191-214. https://doi.org/10.1257/089533004773563494

Raberto, M., Ozel, B., Ponta, L., Teglio, A., & Cincotti, S. (2019). From financial instability to green finance: the role of banking and credit market regulation in the Eurace model. *Journal of Evolutionary Economics, 29,* 429-465. https://doi.org/10.1007/S00191-018-0568-2.

Reid, C., Bocian, D., Li, W., & Quercia, R. (2017). Revisiting the subprime crisis: The dual mortgage market and mortgage defaults by race and ethnicity. *Journal of Urban Affairs, 39,* 469 - 487. https://doi.org/10.1080/07352166.2016.1255529.

Rio, D., Sovacool, B., Bergman, N., & Makuch, K. (2020). Critically reviewing smart home technology applications and business models in Europe. *Energy Policy, 144,* 111631. https://doi.org/10.1016/j.enpol.2020.111631.

Saberi, S., Kouhizadeh, M., Sarkis, J., & Shen, L. (2019). Blockchain technology and its relationships to sustainable supply chain management. *International journal of production research, 57(7),* 2117-2135. https://doi.org/10.1080/00207543.2018.1533261

Saunders, T., & Tulip, P. (2020). A model of the Australian housing market. *Economic Record, 96,* 1-25. https://doi.org/10.1111/1475-4932.12537.

Sommer, K., & Sullivan, P. (2018). Implications of US Tax Policy for House Prices, Rents, and Homeownership. *The American Economic Review, 108,* 241-274. https://doi.org/10.1257/AER.20141751.

Thai, H., Ngo, T., & Uy, B. (2020). A review on modular construction for high-rise buildings. *Structures, 28,* 1265-1290. https://doi.org/10.1016/j.istruc.2020.09.070.

Thirunavukkarasu, K., Kanthasamy, E., Gatheeshgar, P., Poologanathan, K., Rajanayagam, H., Suntharalingam, T., & Dissanayake, M. (2021). Sustainable performance of a modular building system made of built-up cold-formed steel beams. *Buildings, 11(10),* 460. https://doi.org/10.3390/buildings11100460.

Voigtländer, M. (2014). The stability of the German housing market. *Journal of Housing and the Built Environment, 29,* 583-594. https://doi.org/10.1007/S10901-013-9366-1.

Wachsmuth, D., & Weisler, A. (2018). Airbnb and the rent gap: Gentrification through the sharing economy. *Environment and planning A: economy and space, 50(6),* 1147-1170. https://doi.org/10.1177/0308518X18778038

Zuo, J., & Zhao, Z. Y. (2014). Green building research–current status and future agenda: A review. *Renewable and sustainable energy reviews, 30,* 271-281. https://doi.org/10.1016/j.rser.2013.10.021