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REAL ESTATE FINANCE EXECUTIVE SUMMARY

- Career Multifamily (MF) housing finance practitioner with extensive experience in all industry disciplines:
 - Analytics and Business Intelligence Reporting
 - Lean Business Process, Requirements, and Business Architecture development
 - Data Mart Development and Data Governance Implementation
 - Multifamily Finance Technology Management
 - Project Management and Contract Administration
 - Credit, Operational, Market, and Counterparty Risk Management
 - Asset and Portfolio Management
 - Underwriting
 - Mortgage Accounting and Loan Servicing
 - HUD MF and Affordable Housing Programs
 - Fannie Mae DUS Underwriting and Servicing
 - Freddie Mac Prior Approval underwriting and Servicing
- Mortgage Technology Project/Program Manager with solid experience in:
 - The development of real estate finance data warehouses and associated business intelligence reporting, risk management analytics, and econometric (explanatory and predictive) modeling platforms.
 - Leading ongoing development, expansion, or replacement of asset management, risk management, underwriting, and servicing technology platforms.
 - Building, documenting, deploying lean business processes, business and technical requirements, and extensible business architectures that are forward-looking and that anticipate new loan programs, transaction structures of increasing complexity, and that are primed for digital transformation.
 - Utilizing business architecture knowledge to contribute in meaningful ways to strategic planning as well as to the tactical execution of those strategies across the organization, while taking every opportunity to improve upon existing processes to support greater efficiency as well as the adoption of emerging technologies.
- Real Estate Finance Operations and Portfolio Manager able to:
 - Build the operational, tactical components of a Multifamily housing finance, servicing, and asset management strategy. Strong orientation toward execution and able to provide leadership over full range of credit, operational, market, and financial risk management requirements of a Multifamily portfolio.
 - Conduct comprehensive property risk assessments, annual property financial performance, physical condition, and compliance reviews against governing loan and program asset management and servicing requirements.
 - Monitor and maximize/enforce ongoing loan and portfolio level financial performance and compliance with terms and requirements of all credit decisions, loan, program, and third-party agreement requirements.

- Mature, seasoned people manager of high-performance individuals, with solid experience in building teams and in constructing new business operations from the ground-up. Able to build a data-driven risk management culture that focuses on ongoing portfolio financial performance, trends, and valuation analysis within the context of continuous market and operational risk surveillance.
- Formally trained economist with a master's degree in Applied Economics (2003) from the Johns Hopkins University (JHU) in Baltimore, MD (concentration in econometrics). Able to transform highly technical results from statistical analysis, credit risk/predictive model estimation, and forecasting activities into actionable business information that is consumable by business operations and risk managers.

Education and Technical Training

- [Digital Transformation: Blockchain, IoT, Machine Learning/AI, Cloud technologies, Cybersecurity. MIT.](#) Boston, MA. 09/2019 – 11/2019.
- MA Applied Economics. Johns Hopkins University. Baltimore, MD. 2003.
- BA Economics, cum Laude. University of the Philippines. Manila, Philippines. 1981.

DATA SCIENCE, ANALYTICS, ECONOMETRIC MODELING, AND MODEL DIAGNOSTICS SKILLS

- Techniques for Time Series, Cross-Section, and Panel Data Analysis
- Estimation with Ordinary Least Squares (OLS), Generalized Method of Moments (GMM), Two-Stage Least Squares (TSLS) for Instrumental Variables, Maximum Likelihood Estimation (MLE for Logit/Probit)
- Models of Qualitative Choice
- Monte Carlo Simulation & Analysis
- Bootstrapping
- Model diagnostics: Testing for normality, goodness of fit, model specification, heteroskedasticity, serial correlation, endogeneity, identification, unit root analysis, co-integration.
- Data research, extraction, cleansing, and transformation
- Cost/Benefit Analysis and Policy Deconstruction
- Cash Flow Modeling and Asset Valuation

SOFTWARE PROFICIENCIES AND APPLICATIONS EXPERIENCE

- SAS EG: Data Querying and Analysis; Econometric Modeling and Model Diagnostics
- Eviews: Econometric Modeling and Model Diagnostics
- MS Access/SQL: Data Querying, Analysis, and Applications development
- MS Office, MS Visio, and MS Project
- ARCGis

EMPLOYMENT HISTORY

US Department of Housing and Urban Development
Washington, D. C.
FHA Office of Risk Management and Regulatory Affairs (ORMRA)
Multifamily and Healthcare Programs
Project Manager, OPIIS Contract
Multifamily Data Mart and Analytics SME, CCAP Contract
2009 – 2019

DATA MART DEVELOPMENT

Led the 10-year development/expansion of HUD's Multifamily (MF), Nursing Home, and Hospital (OHP) data mart, referred to as the OPIIS data mart. The data mart contains historical financial performance, property, loan, default, claim, program, subsidy, and property management data, along with rental market and macroeconomic time series data.

- Utilization/Extraction of data from HUD Source Systems and Third Party Data Providers:
Worked extensively with ORMRA, HUD Multifamily, and Healthcare senior managers, as well as with HUD system owners and third-party data providers to articulate business processes, discover and write detailed business, data, and technical requirements for the expansion of the OPIIS data mart over a ten-year period (i.e., over a period covering 40 quarterly releases).
Data sources included:
 - *iREMS*
 - *Ginnie Mae*
 - *TRACS*
 - *REAC Systems: PASS, MASS*
 - *FASS-MF*
 - *FHASL*
 - *LSS (formerly Dynaxis)*
 - *DAP*
 - *MDDR*
 - *APPS*
 - *LEAP*
 - *RAD*
 - *MF and OHP Asset Management and Production Tracking SharePoint Sites, Spreadsheets, and Databases*
 - *CMS Nursing Home and Hospital Data*
 - *FFIEC (Bank Lender/Service Financial Statement data)*
 - *Moody's*
 - *REIS*
- Implementation of Data Governance Best Practices: Analyzed, described, diagrammed, and documented HUD business processes, which produce agency data that come to be stored in its source systems, which data are then extracted into the OPIIS data mart. These business analysis activities created the correct context for establishing data quality, i.e., meta data, business definitions, linkages with other business processes and data clusters. Managed the continuous expansion and quality control of the OPIIS data mart dictionary, the reliability of which directly supported ORMRA's and the Office of Housing's risk management, data exploration, reporting, and modeling activities.
- Establishment of Change Management Discipline: Created operational discipline and rigor over data governance and the data mart's business architecture, which is comprised of its physical data model, ETL (Extract-Transform-Load) regime, change management framework, data quality/cleaning/transformation, testing, validation, and documentation processes.

ANALYTICS, BUSINESS INTELLIGENCE REPORTING, PREDICTIVE MODELING

- Mortgage Program Analysis: Applied knowledge of real estate finance and economic and statistical analysis technics to the exploration of program efficacy, credit risk measurement, probabilistic default and claim modeling, drivers of credit risk, counterparty risk impacts, and market risk projections and exposure. In particular, these analytical activities included use of the following techniques:
 - Logistic regression
 - Survival analysis
 - Monte Carlo simulation
 - Bootstrapping
 - Multivariate linear and non-linear cross-section regression analysis
 - Time series analysis and Forecasting
 - Panel data econometric modeling
 - Sampling and Distribution analysis
 - Variance analysis
 - Trend Analysis
 - Cost-benefit analysis and valuation
 - Process Flow Charting
 - Geospatial analysis
- HUD SME Consultancy: Acted in the capacity of senior consultant to ORMRA, the Office of Multifamily Housing (Development, Asset Management, and Financial Operations), the Office of Residential Care Facilities, and the Office of Hospital Facilities in the development of new requirements to support enhanced reporting and analytics, using financial performance, transaction, operational, macro and microeconomic, market, geographical, industry, CMS, and Ginnie Mae data.
- Solution Design: Led team of statisticians/SAS technologists in design activities to directly address differentiated business needs with focused, targeted dashboards that answered each client group's specific questions and requirements.
- Deployment of Best in Breed Analytics Technology: Deployed ORMRA BI platform with SAS, best in breed in analytics software, which offers a wide array of advanced dashboarding, data visualization techniques, and self-service data extraction and report development.
- Strategy Support: Assisted ORMRA with integration of risk management into the development (underwriting) and asset management business processes of HUD's Multifamily, Nursing Home, and Hospital mortgage programs.
- Credit Risk Identification, Measurement, and Surveillance
 - Creation of comprehensive Financial Statements from FASS-MF data for all MF and Nursing Home properties reporting into said system since 2000
 - Ongoing credit risk reporting, default probability scoring, and financial performance reporting and surveillance on all MF and OHP loans, which data could be summarized at the property, HUD Asset Manager, geographical/field office, loan program, and mortgage insurance cohort level
 - Creation of default and claim distributions and concentrations, over time, across programs, geography, HUD field offices, lenders/servicers
 - Creation of loan performance panel data that included property, market, and macroeconomic variables to support credit modeling activities as well as to continually updated default probabilities for the entire portfolio

- Creation of reports to identify possible fraud or defective underwriting within the context of credit events occurring shortly after closing
- Market Risk Analysis
 - Benchmarking a property's vacancy, rents, rent increases, against market and submarket performance to identify fraud or toward early identification and remediation of default
 - Identification of emerging credit risk in a region arising from cyclical over-expansion, marked by escalating rents and overbuilding, followed thereafter by market contraction
- Counterparty (Lender, Servicer, Borrower, Borrower Key Principal) Risk Reporting
 - Reporting on the volumes, credit quality, and default/claim history of Lender/Servicers participating in HUD's MF and OHP programs toward the application of lender sanctions where necessary
 - Analysis and reporting of counterparty financial performance, utilizing LEAP, APPS, and FFIEC data. Metrics analyzed included financial statement ratios and liquidity ratios/metrics.
- Operational Risk Identification and Management
 - Development and presentation of recommendations based on analysis and evaluation of administrative functions for multifamily housing programs, e.g., identification of weaknesses and roadblocks in loan underwriting processes by benchmarking process durations against stated goals and policies and among different programs and field offices
 - Analysis and evaluation of organizational effectiveness, efficiency and productivity, e.g., reporting on workload sharing among field offices with respect to underwriting and asset management activities toward implementing greater efficiencies
- Mission Risk
 - Research into data produced by the implementation of statutes, policies, and guidance associated with the financial operations of multifamily rental assistance programs
 - Periodic assessment of probability of opting out by properties out of affordable housing programs, generally as a function of increasing rents and market gentrification

PROJECT MANAGEMENT (AGILE AND LEAN)

- Executed on all contract requirements, reporting directly to the Government Technical Monitor, delivering on all contract deliverables with a consistently exceptional level of quality throughout a ten-year period. For all deliverables, executed systematically on the full project life cycle:
 - From business needs identification/ refinement and project scoping with HUD Housing and ORMRA SMES
 - To business analysis, requirements development, and release documentation
 - To work planning, sequencing, and delivery schedule development
 - To tracking and reporting project status
 - Through functional and UAT testing, deployment, and final delivery.
- Provided project leadership, expert consultative services, completing all deliverables at a very high level of quality over a ten-year period. As project manager and SME, provided industry insight and knowledge to ORMRA stakeholders, MF and OHP senior managers, analysts, system owners, economists, and third-party data providers to establish the scope, definition, metadata, and necessary transformations of the ever-expanding requirements of the data mart, and to also establish the most efficient data extraction and integration approaches and alternatives.
- At ORMRA's direction, attended meetings and requirements development sessions with the Offices of MF Housing, ORCF, OHF, MF Financial Operations, RAD, and HUD MF and OHP system owners to discuss and agree upon program and system enhancements, as would need to be captured by the OPIIS data mart.

- Represented ORMRA at various HUD IT planning sessions, most significantly, in HUD's migration to the cloud and other digital transformation initiatives
- Managed a high-performance team of senior technologists and statisticians by:
 - Maintaining complete transparency and precise communication as to client needs, desired end products, execution approaches, sequencing, and completion timeframes
 - Creating a project plan for all deliverables and using it actively to chart and monitor team progress
 - Assessing and provisioning for team members' needs for additional resources, literature, or training to maximize success
- Building consensus around the integration of ORMRA's mission and vision into the team's goals and priorities
- Sharing industry knowledge of real estate finance, regulatory, and statutory requirements to provide informed context for all work assigned
- Providing tactical guidance on execution, approaches, and procedures
- Reviewing all completed deliverables for quality and completeness
- Developing and nurturing relationships with program offices, source system development and support teams to gain cooperation for successfully managing the continuous expansion of the OPIIS data mart

SPECIAL PROJECTS, TECHNICAL SUPPORT, AND TRAINING

- At the request of ORMRA, Office of MF Housing, or Office of Residential Care and Hospital Facilities and in response to specific business or policy issues, applied robust fact-finding, investigative methodologies by interrogating the OPIIS data mart, adding additional data sources to it where necessary, and then by applying established data analysis techniques to produce explanatory charts, data summaries, maps, and all necessary artifacts to support a study's conclusion.
- Responded to all inquiries and produced recurring special reports and data extracts on mortgage accounting and property and program level financial and performance information, utilizing FASS-MF data residing in OPIIS.
- Partnered closely with various MF and OHP offices in developing risk assessment methodologies and in the specification, development, testing, training, and adoption of numerous business-decisioning, benchmarking analytical solutions, tools, and applications.
- Utilized formal training as an economist and 30-year career as a real estate finance practitioner to create educational presentations and training decks on the use of the OPIIS data mart and its various reporting and analytics capabilities, that, collectively, presented deep information on HUD's Multifamily and Healthcare loan programs and their performance over time.
- Conducted numerous training sessions over the course of ten years for HUD's MF Asset Management and Production personnel in the use, interpretation, and application of OPIIS data, canned reports, analytic tools, and techniques for tackling special analyses to address specific business questions.
- Transformed highly technical results of credit risk statistical and data analyses, data model estimation, and forecasting activities into actionable business information consumable by business operations and risk managers in numerous training sessions and presentations made to ORMRA, to the Multifamily and Healthcare Asset Management and Underwriting Production communities.
- Managed the OPIIS Help Desk, which offered technical consulting services on the interpretation and use of canned reports, interrogation of the data mart utilizing SAS, MS Access, and other

query-building software, and use of OPIIS analytical and property performance benchmarking tools.

Freddie Mac
McLean, VA
Multifamily Business Architect
2005 – 2009

BUSINESS PROCESS ARCHITECTURE AND DATA MODEL DEVELOPMENT

- Created a cohesive body of interconnected business process diagrams to describe the Multifamily underwriting, pricing, rate lock, closing, delivery, securitization, asset/portfolio management business processes¹.
- Implemented Lean and Six Sigma best practices and methodologies in contributing to the creation of the Multifamily Business Process and Technology Roadmap - a multi-year program intended to institute leaner, more agile business processes along with corresponding technologies to enable such process innovations and efficiencies.
- Logical Model Development: Created the Logical Data Model as a component of the Multifamily data architecture, which model serves(d) as the blueprint for creating, transforming, and linking the content and organization of physical databases of various Freddie Mac Multifamily systems, applications, and data warehouses.

TRAINING

- Administered the Multifamily (Rental) Housing finance business education program, which provided training in the practical application of finance and economics to underwriting, securitization, loan servicing, and asset management.

Fannie Mae
Washington, DC
Senior Multifamily Operational Risk Manager
1996-2004

PROCESS AND OPERATIONAL RISK MANAGEMENT: COMMITTING, DELIVERY, MORTGAGE ACQUISITIONS, AND SECURITIZATION

- Wrote process flow diagrams to introduce efficiencies and minimize operational risk in Fannie Mae's Multifamily Committing and Delivery processes.
- Wrote operating and servicing procedures and controls associated with new products; conducted deployment-related Fannie Mae staff and Lender training. Performed due diligence reviews associated with the purchase and securitization of loans, loan pools, and portfolios.
- Created and managed databases that captured acquisitions data, production defects data, lender error data.
- Created applications, queries, and reports to measure production volumes, product success, error/failure frequencies, and lender scores, all of which were utilized as inputs into larger, organizational decision-making and risk management activities.
- Ensured achievement of sustaining occupancy, property stabilization, and other credit requirements associated with conversion from construction to permanent financing.
- Ensured compliance with Sarbanes-Oxley and other regulatory guidelines.

¹ Business process diagrams, which systematically break down operations into process components, along with the logical data model, comprise an organization's business architecture, which, in turn, directs and informs the design and architecture of that organization's technology solutions.

- Implemented Fannie Mae's multifamily pricing strategies.
- Enforced Cash or MBS trade commitment loan terms, provisions, prepayment penalty requirements, and commitment period limits.
- Ensured correct and complete Disclosure of all standard loan statistics as well as of non-standard financing features on MBS and REMICs.
- Monitored fulfillment of requirements and loan modifications arising from underwriting and pricing waivers, loan re-sizing, re-pricing events.
- Implemented Fannie Mae structural requirements relating to financing, prepayment penalty, and securities pooling.
- Enforced loan and collateral document delivery requirements.
- Ensured compliance with data requirements for downstream servicing systems, data warehousing, financial and investor reporting systems, and risk-based capital reporting.

NEW PRODUCT DEPLOYMENT AND CREDIT & COUNTERPARTY RISK MANAGEMENT SUPPORT

Provided intellectual leadership and managerial support in the deployment of new Multifamily products in the following areas:

- **Requirements Development:** For new products requiring systems enhancements, developed business and functional requirements, automated controls, and comprehensive test plans. Where necessary, developed data migration strategies to ensure successful integration of new products into Fannie Mae's systems.
- **Led due diligence reviews for Multifamily Structured and Small Loan Pooled transactions.** Performed underwriting and physical needs assessment reviews, as well as loan documents for seasoned loans to ensure conformance with uniform maturity and prepayment penalty provision requirements. Participated in selection/elimination of properties entering the pooled transaction, toward creation of credit quality tranches
- **Instituted comprehensive, appropriate, product-specific committing and delivery process innovations, enhancements, and controls, failure tracking and remedial response protocols for all new products.**
- **Conducted post-purchase underwriting quality reviews for Small Loan Program, and reported out findings toward continuous improvements in credit policy formulation and operational implementation.**
- **Conducted Lender-level loan underwriting and servicing quality assessments.**

BUSINESS ANALYSIS, REQUIREMENTS DEVELOPMENT, AND TECHNOLOGY PROJECT MANAGEMENT

Provided intellectual leadership and managerial support for business analysis, requirements development, business process development, and testing for the following Multifamily IT projects:

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|--|---|
| • <i>MCodes (Web-based Multifamily Committing & Delivery System)</i> | • <i>ARM Processing and Functionality - Migration of Multifamily Portfolio from LASER to McCracken's STRATEGY; ARM Sub-Servicing Capacity and ARM to Fixed Rate Conversions</i> |
| • <i>CTS (Commitment Tracking System) Original and Redesign</i> | • <i>Multifamily Expedited Cash Purchasing</i> |
| • <i>Multifamily Data Architecture Project</i> | • <i>FAS 149 Compliance</i> |
| • <i>Housing Goals Data Validation</i> | |

US Department of Housing and Urban Development
Washington, D. C.
Section 312 Special Asset Servicing Contract
Multifamily Asset Manager, Loan Work-Out Specialist, Underwriter
1993-1996

SPECIAL ASSET SERVICING, UNDERWRITING, GRANT AND SUBSIDY LAYERING REVIEW

- Performed borrower credit risk assessments, income and expense analysis, third party report and appraisal reviews, and market analysis on non-performing loans in the HUD 312 portfolio, toward loan workouts, loan restructuring, resizing, and recasting.
- Developed underwriting specialization in the credit review issues unique to the portfolio's loans secured by small, mixed-used properties, with 5-50 units, located in urban areas. Credit assessments included the review of existing CDBG grants, borrower credit and general capacity to infuse the property with needed cash; the sensitivity of debt service coverage to even marginal increases in vacancy; deferred maintenance and functional obsolescence; limits on the already low program interest rate of 3%.
- Pursued full lender remedy through foreclosure and sale after exhaustion of all possible loan modification options. This process also involved working with the U.S. Department of Justice in pursuing remedies against borrowers under any existing recourse provisions.

The Business Bank
Vienna, VA
Multifamily Division Portfolio Manager
1989-1993

LOAN SERVICING AND PORTFOLIO MANAGEMENT

- Profit and loss responsibility over bank's \$1.5 BB Fannie Mae and Freddie Mac Multifamily servicing portfolio. Acted in the capacity of Asset Management Director, Senior Underwriter, Servicing Manager, and Servicing System Developer.
- Developed the bank's Multifamily Loan Servicing and Asset Management Procedures Handbook
- Implemented aggressive, proactive asset management. Developed a reputation among Fannie and Freddie regional offices as a model Servicer in the preparation of thorough, informative, and preventive annual property inspections and financial analyses.
- Packaged and underwrote multifamily loans (\$3 MM - \$6MM) under the Fannie Mae Prior Approval and FHLMC Prior Approval programs. Developed streamlined application, appraisal/valuation, third party report, mortgage credit, market, and financial analysis review processes, and leveraged existing portfolio information/data to develop a refinance pipeline.
- Designed and developed a full-service loan servicing system² (in R: Base 2.11 SQL), on which the Bank's multifamily mortgage portfolio was serviced.
- Hired, trained, and managed staff in mortgage accounting, servicing systems administration, escrow administration, collections, and investor remittance and reporting, and investor and audit compliance.
- Actively pursued, priced, evaluated, and purchased servicing portfolios to expand the Bank's servicing portfolio holdings.

² System features included: Regular and irregular payment processing; daily custodial account distribution reports; loan history compilation; T&I history compilation; T&I escrow analyses; operational income and expense data compilation; occupancy data compilation; market data compilation; canned and ad hoc reporting capability to support accounting control functions.

DeFranceaux Realty Group

Washington, DC

Assistant Vice President, Loan Servicing HUD, FHLMC, FNMA Multifamily Portfolio

1983-1988

CONSTRUCTION AND PERMANENT LOAN SERVICING AND ASSET MANAGEMENT

- Acquired solid experience and developed management skills in the administration of construction, substantial rehabilitation, and land development mortgage loans, draw requisition reviews and funding, construction loan accounting, easement filings, change order requests, title insurance review, final cost certification, closing, and conversion to permanent financing.
- Executed on all applicable HUD and GNMA Servicing, Asset Management, and Investor Remittance and Reporting Handbook, Loan Program, Use Agreement, Regulatory Agreement, and Mortgage covenant requirements.
- Developed comprehensive knowledge of mortgage accounting, loan servicing, loans servicing systems, repair, replacement reserve, and operating deficit escrow administration, mortgage payment collections, tax and insurance administration, investor pass-through remittance and reporting, and investor and regulatory authority audit compliance.
- Gained exposure to and knowledge of capital markets participation in construction and land development loans, the funding of advances by participants, and issuance of participation documentation.
- Developed expert knowledge in asset management and default prevention, which formed the foundation for loan underwriting skills.
- Acquired expert knowledge in the issuance and servicing of GNMA mortgage-backed securities. Managed pass-through accounting and remittance to security holder remittances and the procurement of any required lender advances to fully fund P&I security holder pass-throughs.
- Advanced rapidly from single contributor to manager to officer roles within five years of employment in firm. Staff size managed: 20 individuals.