

Electric Choice Question 2: *What approaches to retail electric market structure have been tried in Michigan and in other states and jurisdictions?*

Executive Summary

There are three main approaches to retail electric market structure in the United States: full regulation, partial deregulation, and full deregulation. The majority of the United States operates under a fully regulated model.

1. The nation's electric infrastructure was built on the foundations of a regulated model. The last 15 years have been a period of experimentation with the regulatory model, including several failed attempts at deregulation
2. Today, most states in the U.S. are fully regulated. Only 14 states remain fully deregulated and only two, Michigan and California, have partial retail access (partial deregulation) models
3. Deregulation refers to the separation of generation from regulated rates. Regulated rates are set based on cost of service while rates in deregulated markets are driven by the fuel cost of the highest-cost unit providing power
4. A key difference between regulated and deregulated models is their ability to guarantee adequate generation capacity – a cornerstone of reliability. Fully regulated models provide assurance of generation reliability and stability while deregulated markets struggle to ensure that sufficient capacity is built
5. Partial deregulation models allow some customers to access deregulated rates while others remain on regulated utility rates. These models are either highly restrictive and operate essentially as regulated models or they have a cap on access to deregulated rates. Uncapped partial deregulation models are not sustainable

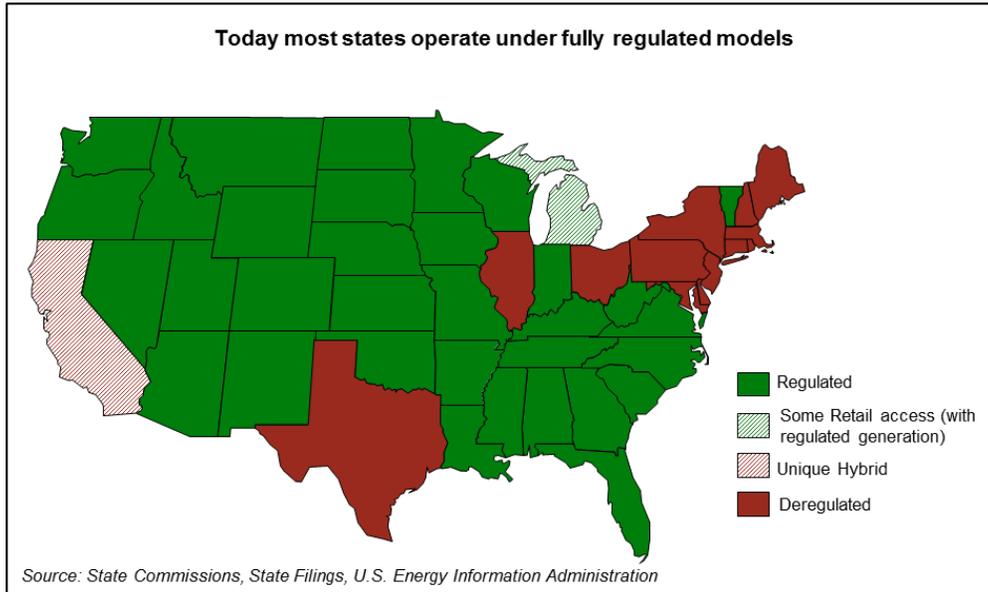
1. The nation's electric infrastructure was built on the foundations of a regulated model. The last 15 years have been a period of experimentation with the regulatory model, including several failed attempts at deregulation.

Over the last century, the fully regulated model allowed utilities to make the capital investments needed to build one of the one of the world's most reliable electric systems, bringing power to virtually every corner of the country. Public Service Commissions were established to help ensure that utilities made prudent investments and offered reasonable rates.

In the late 1990s, rising power costs prompted some states, led by California, to experiment with deregulation. After witnessing the rolling blackouts and skyrocketing power prices of the California Energy Crisis, seven states reversed their deregulation plans, some prior to actual implementation. Other states, such as Montana, started to implement deregulation and then faced high power prices as natural gas prices increased, which then led them to reverse those plans: *"Deregulation is an unmitigated disaster for Montana"* –Governor Schweitzer.

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2. Today, most states in the U.S. are fully regulated. Only 14 states remain fully deregulated and only two, Michigan and California, currently have partial retail access (partial deregulation) models. (EIA classifies based on technical/legal language that sometimes does not reflect system function in practice, so classifications here differ slightly from EIA's.)



Regulated

- Includes states that never experimented with deregulation and states that fully reversed deregulation
- Of these states, Arizona, Georgia, Montana, Nevada, Oregon, Virginia, and Washington have retail access options, but they are highly restrictive and have limited use in practice, resulting in effectively full regulation
- Michigan operates a model with fully regulated utility rates served by regulated generation, but 10% of load can be served by retail access (deregulated) suppliers

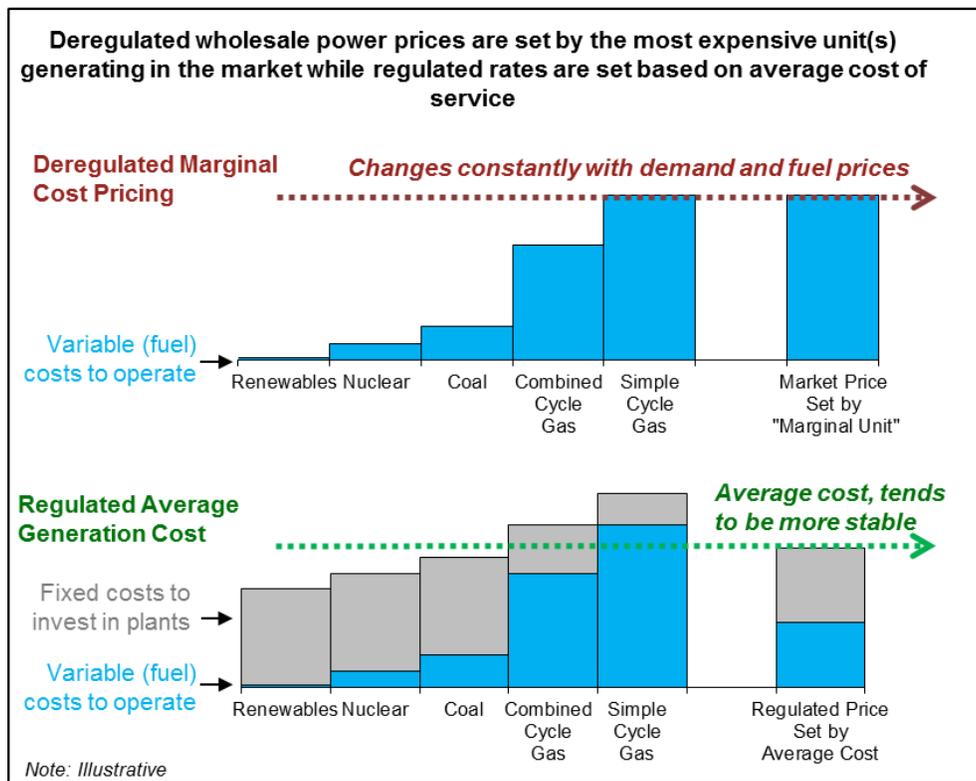
Deregulated

- Includes states that have full deregulation and never re-regulated: Connecticut, D.C., Delaware, Illinois, Maine, Massachusetts, Maryland, New Hampshire, New Jersey, New York, Ohio, Pennsylvania, Rhode Island, and Texas
- California implemented deregulation, including the separation of power plants from the utility, but partially re-regulated following the California energy crisis. However, California still allows retail access up to a cap, which varies between utilities

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3. Deregulation refers to the separation of generation from regulated rates. Regulated rates are set based on cost of service while rates in deregulated markets are driven by the fuel cost of the highest-cost unit providing power.

Deregulation refers to the separation of generation from regulated rates, while transmission and distribution infrastructure remain regulated. Regulated rates are set based on the cost of service determined to be reasonable by a state’s Public Service Commission. In a deregulated market structure, generally the generation component of electric rates is driven by the fuel cost of the highest-cost (“marginal”) unit providing power in the market.



Since deregulated generation rates are set by the fuel cost of the highest-cost unit, they are sensitive to changes in fuel prices and therefore tend to be more volatile over commodity cycles. (See Electric Choice Question 11 response for information on the volatility of deregulated rates)

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4. A key difference between regulated and deregulated models is their ability to guarantee adequate generation capacity – a cornerstone of reliability. Fully regulated models provide assurance of generation reliability and stability while deregulated markets struggle to ensure that sufficient capacity is built.

There are two ways for power providers to recover investment costs: energy and capacity prices. Energy prices are the prices received for each unit of electricity generated and sold, while capacity prices pay generators for having plants available to produce electricity when needed. Capacity prices conceptually pay for fixed cost infrastructure and must be high enough and stable enough to encourage new investment and maintenance of existing assets.

Fully deregulated models provide little assurance of investment recovery when energy and capacity prices are not high enough over an adequate period of time, potentially putting reliability at risk. The chart on the next page shows the different regulatory models in use across the United States and how they allow for recovery of investment for reliability.

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Regulatory models across the United States					
	Fully Regulated	Partially Deregulated	Fully Deregulated	Fully Deregulated	Fully Deregulated Energy-Only Market
	Fully Regulated	Partially Deregulated with Low Retail Access Cap	Fully Deregulated with Active Capacity Market	Fully Deregulated with Developing Capacity Market	Fully Deregulated Energy-Only Market
Recovery of day to day energy generation	Regulated cost-of service rates	Predominately regulated cost-of-service rates, retail access through deregulated market rates	Deregulated wholesale market-based rates	Deregulated wholesale market-based rates	Deregulated wholesale market-based rates
Recovery of additional capacity for reliability	Regulated cost-of service rates	Predominately regulated cost-of-service rates, utility customers subsidize fixed cost recovery for retail access customers ¹	Forward capacity market prices (PJM market goes out 3 years – power plants have ~30 year lives)	Predominately bilateral contracts, a capacity market is still developing (MISO's mostly regulated market members do not have to participate)	Through high spikes in day to day energy generation prices
Investment motive of electric supplier	Obligation to Serve	Obligation to Serve for the majority of customers, profit for retail access customers	Profit	Profit	Profit
Regulatory approval of costs	Public Service Commission approves costs	Public Service Commission approves costs	None	None	None
Examples	Wisconsin	Michigan and California	Most deregulated states - New Jersey (PJM market)	Illinois (MISO market)	Texas (ERCOT)

¹ See Electric Choice Question 26 Response for detail on how Michigan utility customers subsidize the fixed costs of reliability for retail access customers. Source: State Commissions, Utility filings, U.S. Energy Information Administration

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5. Partial deregulation models allow some customers to access deregulated rates while others remain on regulated utility rates. These models are either highly restrictive and operate essentially as regulated models or they have a cap on access to deregulated rates. Uncapped partial deregulation models are not sustainable.

Partially deregulated models generally resulted from states wanting to slowly transition to deregulation while also reducing the exposure to market risk and retaining regulatory protection from price volatility and reliability issues. California employed partially regulated mechanisms after facing severe price spikes and rolling blackouts following its implementation of deregulation in the early 2000s.

Some states have retail access options but they are highly restrictive and have limited use in practice, resulting in effectively full regulation. The table provides examples of some of these restrictions:

Select Provisions of States with Highly Restrictive Retail Access		
State	Restrictions	Regulatory Model Impact
Virginia	<ul style="list-style-type: none"> Customers with >5MW of demand (very large business customers) are eligible 	<ul style="list-style-type: none"> Functions as a regulated model
	<ul style="list-style-type: none"> Customers that opt to switch cannot return to regulated service for five years 	
Georgia	<ul style="list-style-type: none"> Only new customers with >900kW of demand (large business customers) are eligible 	<ul style="list-style-type: none"> Functions as a regulated model
	<ul style="list-style-type: none"> Customers that opt to switch are not allowed to return to regulated service 	

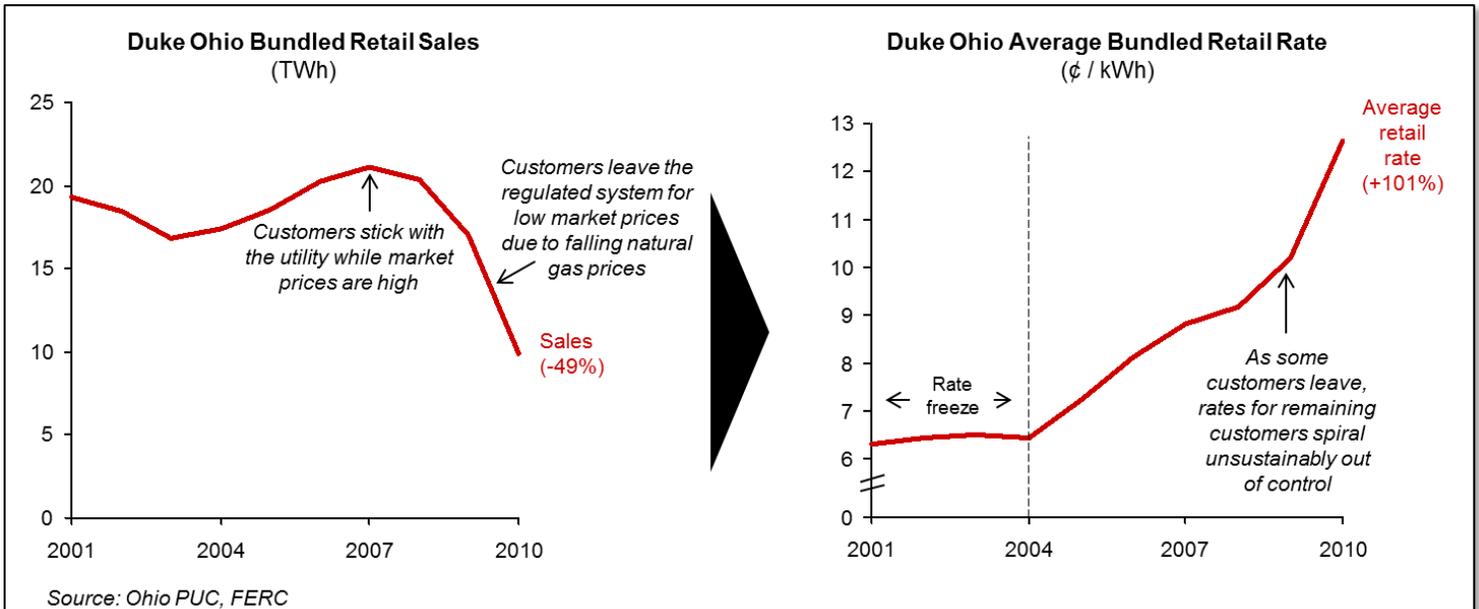
Source: State Commission Websites, State filings, U.S. Energy Information Administration

From a practical perspective, only Michigan and California have active partially deregulated models, since other states are so restrictive in the rules for retail access. However, the caps on retail access in Michigan and California allow these models to remain sustainable, though unfair to many customers as described in Electric Choice Question 26.

By contrast, in an uncapped or high cap retail access model, as some customers switch to deregulated rates, rates for utility customers increase dramatically. This was recently experienced in Ohio. Shifting the burden of fixed cost recovery to a subset of customers is an unsustainable model and ultimately is likely to drive a move toward full deregulation, as happened in Ohio.

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Ohio's Electric Security Plans (ESP) allowed unlimited customer switching and created uncertainty around whether Ohio utilities would have enough sales to recover their investments. Investment and cost recovery were authorized by the Commission, but as some customers left regulated utility rates for retail access, this investment and cost recovery had to be spread out over fewer sales. This resulted in further rate increases that became unsustainable for the remaining utility customers.



The combination of high rates for some customers and the uncertain investment environment ultimately forced Ohio's power companies to begin the transition to full deregulation in 2012. The low power price market and the large number of customers on retail access would have made a move back to regulation difficult, especially as one Ohio utility transitioned to a fully deregulated model prior to the implementation of ESP plans.

In the future, Ohio will have to face the challenges of a deregulated market, including the fact that generation investments will now be made based on profit alone, as opposed to the need to ensure reliability.