



## **OVERVIEW OF *KING V. BURWELL* AMICUS BRIEFS SUPPORTING AVAILABILITY OF TAX CREDITS**

Thirty *amicus curiae* briefs supporting the nationwide availability of tax credits that make health care affordable for millions of Americans under the Affordable Care Act have been filed in the Supreme Court case *King v. Burwell*. The briefs were filed on behalf of a broad array of significant voices, including the health insurance industry, statutory interpretation scholars, economists, government officials who wrote the law, states responsible for implementing it, affected individuals, hospitals, and health care providers, and more. Below, please find a short overview of the arguments presented in these briefs.

### **[Brief of Twenty-two States and the District of Columbia](#)**

- Brief of state attorneys general from 22 states: Virginia, Kentucky, Massachusetts, Pennsylvania, California, Connecticut, Delaware, Hawaii, Illinois, Iowa, Maine, Maryland, Mississippi, New Hampshire, New Mexico, New York, North Carolina, North Dakota, Oregon, Rhode Island, Vermont, and Washington, as well as the District of Columbia.
- Brief argues that petitioner’s claim that Congress sought to pressure the states to create their own Exchanges is untenable under the *Pennhurst* doctrine, which says that Congress must give states “clear notice” of conditions on cooperative-federalism programs. Brief notes that there was no clear notice in this case, and that “State officials reasonably assumed that premium-assistance tax credits would be available in every State, regardless of who created the Exchange.”
- Brief argues that petitioners’ interpretation raises serious questions under the Tenth Amendment because they “attribute to Congress a novel kind of coercion that threatens State citizens and State insurance markets.” Brief argues that such a scheme is “antithetical to the Act’s cooperative-federalism model,” and further, that “the constitutional-doubt canon counsels against attributing such a coercive intention to Congress.”

### **[Brief of Members of Congress and State Legislatures](#)**

- Brief of current and former leaders of the congressional committees that crafted the ACA and the House and Senate leaders who melded the respective committee versions into the bill that was ultimately enacted and current and former members of state legislatures who served during the period when their governments were deciding whether to create their own Exchanges under the ACA
- Brief argues that Congress never limited credits to FFEs to encourage States to set up their own Exchanges, and state governments never understood the statute to operate in that way based on their review of the statute and the legislative record

- Brief provides evidence from congressional debates, as well as a recent letter from Senator Ben Nelson rebutting a key part of Petitioners’ argument, as well as evidence from state deliberations about whether to set up Exchanges
- “[A]s amici know from their own experience and as the record reflects, the availability of tax credits under the ACA should not turn on whether an individual purchased insurance on a federal or state Exchange. Rather, such credits should be available to all qualified individuals regardless of where they live. Such a conclusion is the only one consistent with the ACA’s text, purpose, and history.”

### [Brief of America’s Health Insurance Plans](#)

- Brief of AHIP, a national trade association representing the health insurance industry
- Brief argues that eliminating the tax credit in 34 states would unbalance the insurance risk pool through a process called “adverse selection,” resulting in a so-called “death spiral” of “premium increases and market contraction.”
- Brief warns that a decision for petitioners would cripple insurance markets and hurt millions, including people who don’t rely on the tax credit: eliminating the tax credit “would create severely dysfunctional insurance markets in those 34 States,” making insurance “significantly less affordable even to those who would not rely on subsidies” and leaving “consumers in those States with a more unstable market and far higher costs than if the ACA had not been enacted.”
- Brief argues that Congress structured the ACA as it did because Congress knew that divorcing tax credits from market reforms would produce adverse selection, citing “prior reforms in Kentucky, Maine, Massachusetts, New Hampshire, New Jersey, New York, Vermont, and Washington” that resulted in “‘death spiral’ characteristics.”
- Brief notes that “[t]here is no practical reason to distinguish between State- and federally-operated exchanges” because “[i]t makes no difference to the market reforms whether the exchange is State- or federally-operated” and “from the perspective of consumers, State- and federally-operated exchanges perform the same basic functions.”

### [Brief of William N. Eskridge, Jr., John A. Ferejohn, Charles Fried, Lisa Marshall Manheim, and David A. Strauss](#)

- Brief of Yale, NYU, Harvard, University of Washington, and University of Chicago Law Professors who teach and write about statutory interpretation, administrative law, and/or constitutional law. Charles Fried served as Solicitor General in the Reagan Administration.
- Brief argues that *King* “is not, as Petitioners suggest, a case about textualism vs. purposivism,” but rather a case about good textual analysis vs. bad textual analysis.” Brief explains that “textualism is not hyperliteralism, and textualists do not read the words of a statute in a vacuum.”
- Brief argues that “the ACA’s definitional provisions make clear that, when the HHS Secretary creates exchanges for states that elect not to do so, those exchanges are, by definition, exchanges ‘established by the State.’”
- Brief argues that petitioner’s interpretation also “ignores other venerable canons of construction that are rooted in the same separation-of-powers concerns that animate textualism as a whole,”

such as the canon that “courts do not read statutes in a way that would nullify a provision or the statute as a whole.”

- Brief argues that “Petitioners’ interpretation undermines the principles of cooperative federalism and state flexibility embodied in the Act.”

#### **Brief for Professors Thomas W. Merrill, Gillian E. Metzger, Abbe R. Gluck, and Nicholas Bagley**

- Brief of Yale, Columbia, and University of Michigan Law Professors who teach and write about federalism, constitutional law, and legislation
- Brief argues that the Supreme Court’s doctrines about the proper relationship between the federal and state governments mean that the relevant text of the ACA is, *at the least*, ambiguous because “Petitioners’ interpretation would result in a significant intrusion on the usual balance between the state and federal governments”
- Brief notes that “[u]nder Petitioners’ interpretation, a State’s choice not to establish its own insurance Exchange would . . . put[] state residents in a much worse position than if Congress had not enacted the ACA at all.” “[T]he legislation not only failed to give States fair notice of that drastic consequence; it contains numerous other provisions strongly indicating that Congress intended no such thing.”

#### **Brief of Bipartisan Economic Scholars**

- Brief of 52 bipartisan economic scholars, including three Nobel Laureates and economists who served in the administrations of Presidents Johnson, Ford, Carter, George H.W. Bush, Clinton, George W. Bush, and Obama
- Brief argues that the economic underpinnings of the ACA require that tax credits be made available for insurance purchased through federally-facilitated Exchanges
- Brief notes that “Congress well understood the importance of subsidies to the ACA reforms” and that “without premium subsidies for every eligible person who buys insurance on an Exchange, the ACA cannot achieve its goals.”
- Brief explains how “[t]he basic economic structure undergirding [the ACA] can be analogized to a stool with three legs,” one of which is premium subsidies, and that all three legs “are necessary to foster stable, functioning insurance markets consistent with Congress’ goal of broad, affordable coverage.”

#### **Brief of the National Alliance of State Health CO-Ops (NASHCO)**

- Brief of NASHCO, a non-profit trade association consisting of non-profit health insurance cooperatives formed as a result of Congress’ direction in the ACA that HHS establish the Consumer Operated and Oriented Plan (CO-OP) program.
- Congress created and funded the CO-OP program as part of the ACA, and “[n]othing in the ACA or its regulations differentiates in any way between a CO-OP established in a State with an HHS-created Exchange and a CO-OP established in a State with a State-created Exchange.”

- Brief argues that petitioners’ interpretation “cannot be squared with the provisions in the Act that established CO-Ops, with the HHS regulations that implement the CO-OP program, or with the statutory context, structure, history, and purpose of those provisions.”
- Brief argues that a decision for the petitioners would “thwart Congress’s express intent to have a CO-OP in every State” and “could sound the death knell for the entire ACA CO-OP program.”
- “The vigorous debate surrounding the CO-OP program that led to its inclusion in the ACA, and the support the program garnered from some of the staunchest opponents of the Act as a whole, confirms that Congress did not statutorily mandate a CO-OP program and appropriate billions of dollars to run it, only to crater it in a lone phrase in other provisions.”

#### **Brief for the American Academy of Pediatrics et al.**

- Brief for the American Academy of Pediatrics, American Academy of Family Physicians, Children’s Health Fund, Children’s Hospital Association, First Focus, March of Dimes, National Physicians Alliance, and Individuals with Pre-existing Medical Conditions
- Brief argues that because the phrase “Exchange established by the State” appears in a key provision relating to the Children’s Health Insurance Program (“CHIP”), a program that provides insurance to millions of children from low- and moderate-income families, the adoption of Petitioners’ interpretation “would have harmful consequences in states with [FFEs]” for children on CHIP
- “[A]ccording to Petitioners, Congress provided for children in 16 states to receive equivalent healthcare coverage if CHIP funding were insufficient—but also decided to deny children in 34 other Federal Exchange states the same access to affordable healthcare”
- Petitioners’ interpretation would also “upend the carefully-crafted insurance reforms at the heart of the ACA” and would have “[i]ndividuals with life-threatening conditions would lose the tax credits that allow many of them to obtain insurance and live with dignity, and would face the prospects of financial ruin or death”

#### **Brief of Former Government Officials**

- Brief of former senior officials in the Treasury Department, the Department of Health and Human Services, and the Office of Management and Budget
- Brief argues that *even if* the law is ambiguous, the Supreme Court should defer to the IRS Rule that confirms that tax credits are available in States with FFEs under long-standing Supreme Court precedent
- Brief notes that this long-standing Supreme Court precedent is “the cornerstone of modern administrative law” and announces “an enduring principle of judicial restraint.” If the Court ignores this precedent, that decision would “encourage judicial superintendence of agency policy choices, limit agency flexibility to work within the boundaries that Congress has established, and interfere with the sound execution of the nation’s laws”

### **Brief of Health Care Policy History Scholars**

- Brief of 36 scholars from a variety of academic disciplines (i.e., health policy, health economics, law, political science, and history) who study the history of health care policy in the United States
- Brief argues that history of the policy discussions and prior reform efforts that informed legislative debate over the ACA, as well as the legislative evolution of the subsidy and Exchange provisions in the Act, “strongly support the government’s position because they show that the 111th Congress subscribed throughout to the principle that an exchange cannot succeed without subsidies”
- Brief argues that Petitioners cannot point to “any . . . material supporting their understanding” of the law, and that understanding could not have “escaped all mention during lengthy deliberations” over the ACA because of the “central and enormous policy consequence” of the issue

### **Brief of Small Business Majority Foundation, Inc. et al.**

- Brief of Small Business Majority Foundation, Inc., a national, nonpartisan organization that represents the interests of small businesses, and Peers, the world’s largest independent sharing-economy community
- Brief explains how the ACA has helped small businesses by making it easier for the self-employed and smaller employers to obtain health insurance
- Brief notes that the Exchanges have meaningfully increased individual choice and entrepreneurship and enabled individuals to seize new economic opportunities

### **Brief of the Catholic Health Association of the United States et al.**

- Brief of Catholic Health Association of the United States and Catholic Charities USA
- Brief argues that before the ACA “uninsured Americans annually made more than 20 million trips to hospital emergency rooms and received just shy of \$100 billion in health care services” (costs often borne by hospitals like many associated with the Catholic health ministry), and Congress designed the ACA to address this issue
- Brief explains that subsidies are integral to the effective operation of the ACA, and eliminating them would “[h]ave [d]evastating [c]onsequences for Catholic [h]ospitals, [t]heir [p]atients, and the [c]ommunities [t]hey [s]erve.”

### **Brief of the American Federation of Labor and Congress of Industrial Organizations**

- Brief of AFL-CIO, a federation of 56 national and international labor organizations with a total membership of approximately 12.5 million working men and women.
- Brief is about the threat in this case posed to employment-based insurance coverage. It notes that the ACA sought to increase the “previously declining rates of employment-based insurance coverage” in two ways: by reducing premiums by providing for universal coverage, and by penalizing employers for dropping coverage or shifting costs to employees. Brief argues that eliminating the tax credit in 34 states “will seriously undermine each of these aspects of the Act”

and therefore “seriously undermine employment-based health insurance coverage in those 34 states.”

- Brief argues that eliminating the tax credit will undermine insurance markets and “drive up the cost of employment-based health insurance and thus encourage employers to either drop employee health insurance or to shift more of the costs of insurance to the employees.”
- Brief argues that eliminating the tax credit will also “free many employers in these states from the penalty provisions of the Affordable Care Act” because those penalties are only triggered when employees whose employer does not offer insurance purchases *subsidized* insurance.

#### **Brief of the American Hospital Association et al.**

- Brief of the American Hospital Association (representing more than 5,000 hospitals), Federation of American Hospitals, Association of American Medical Colleges (representing all 141 accredited U.S. medical schools), and America’s Essential Hospitals
- Brief argues that a ruling for petitioners would “devastate the health or the finances, or both, of the newly uninsured” since “[t]he uninsured are more than twice as likely to delay or forgo needed care, *id.*, and when they do visit the doctor the resulting bills are often too much for them to bear.” Brief warns that hospitals’ open-door policies will not suffice to ward off those harms.
- Brief argues that a decision for the petitioners would hurt the Americans who need affordable health care the most, noting that “States with federally facilitated Exchanges have higher-than-average populations of low-income people” and that many of those states “are the same ones that refused to expand Medicaid coverage.”
- Brief argues that a decision for the petitioners would especially “hurt the children of moderately low-income families” because those children are often eligible for, but need the credit to afford, the Children’s Health Insurance Program (CHIP). Brief cites analysis suggesting that 500,000 lower-income children would become uninsured if credits were eliminated.
- Brief argues that a decision for the petitioners would hurt hospitals, noting that “[a]n ACA without subsidies would leave hospitals unable to make up the loss in their funding” from the deep cuts Congress has imposed to federal funding for hospitals.

#### **Brief of American Cancer Society et al.**

- Brief of American Cancer Society, Cancer Society Cancer Action Network, American Diabetes Association, American Heart Association and National Multiple Sclerosis Society
- Brief argues that “[i]f the Court void[s] premium tax credits in the federal marketplace, an estimated 9.6 million people in 34 states would no longer be able to afford health coverage, leaving most of them no choice but to become uninsured,” and that “[t]he deliberations that led to passage of the Affordable Care Act made it clear that Congress intended for consumers in both federal and state exchanges who meet income eligibility requirements to receive financial assistance that would enable them to afford health insurance.”

### **Brief of Trinity Health**

- Brief of Trinity Health, one of the largest multi-institutional Catholic health care delivery systems in the nation.
- Brief argues that if the Court rules for petitioners, “millions of people will suffer serious harm, as will hospitals and the people they care for, among others.” Brief argues that the Court’s mid-year decision would be particularly harmful because millions “have already purchased plans for this year on the basis of available tax subsidies.”
- While “[t]here is no way to avoid that harm if Petitioners prevail,” brief asks the Court to at least “delay the damage” by specifying that any judgment invalidating the IRS regulation will not take effect until January 1, 2016. Brief argues this delay would be “consistent with the Court’s past holdings and statutory authority.”

### **Brief of Families USA**

- Brief of Families USA, a national non-partisan, non-profit organization that has represented the interests of health care consumers and promoted health care reform in the U.S. for more than 30 years
- Brief argues that Petitioners’ interpretation would disable a statute that is functioning effectively, and “millions . . . would suffer” if the Court adopts Petitioners’ interpretation
- Brief argues that the text of the ACA precludes Petitioners’ interpretation, and their interpretation would “produce[] a torrent of anomalies”

### **Brief of the Hospital Corporation of America (HCA Inc.)**

- Brief of HCA Inc., the nation’s largest non-governmental health care provider, which owns and operates 155 acute care hospitals, 112 ambulatory surgery centers, and 3 psychiatric facilities
- Brief argues that women will be disproportionately affected by a decision eliminating tax credits. Fifty-three percent of all HCA patients are women, but of patients covered through federal Exchanges, a much higher 65% are women.
- Brief notes that HCA’s independent data indicates that the ACA is working as intended, and argues that a decision eliminating tax credits would put many people in a worse position than before the ACA’s passage. HCA notes that 56% of their patients covered by federal Exchanges were covered in the past, and that they represent a “large group of previously insured Americans [who] will face an extremely difficult situation if subsidies are eliminated.”
- Brief notes that HCA members were well-informed during the crafting of the ACA, and they know that “Congress’s use of ‘established by the state’ as a term of art is confirmed throughout the ACA.”

### **Brief of American Thoracic Society**

- Brief of the American Thoracic Society, an international education and scientific organization representing more the 15,000 health care professionals working to prevent and fight respiratory disease around the world

- Brief argues that “[s]hould this Court adopt Petitioner’s reading of the statute,” it “will lead to predictable and preventable adverse health outcomes” for many of “the tens of millions of Americans who suffer from lung diseases like asthma, chronic obstructive pulmonary disease, lung cancer, pneumonia, influenza, and cystic fibrosis.”
- Brief argues that “Congress well understood what Amicus ATS’s experience and expertise can confirm: health coverage improves health outcomes, often while also lowering costs” and so “it is inconceivable that Congress would have built an elaborate statutory machinery explicitly for the purpose of making health coverage ‘near-universal,’ while also inviting states to sabotage that machinery.”

#### **Brief of Harvard Law School Center for Health Law and Policy Innovation et al.**

- Brief of nearly 50 advocacy organizations that “serve populations that are deeply affected by the availability of federal subsidies” under the ACA, including a number of organizations that serve the needs and interests of people living with HIV and AIDS
- Brief argues that the ACA is working and provides specific examples of individuals who have benefitted: “Early results include dramatic expansions of health insurance access among middle- and low-income households and significant reforms in the private insurance market that benefit exchange participants of all income levels nationwide. Health insurance plans are now more comprehensive, premium prices have remained stable, and discriminatory insurance coverage practices are prohibited.”
- Brief argues that “the ACA’s expansion of health insurance access in all States promises to improve the national ability to respond to epidemics and other large-scale public health threats, just as health insurance access improved the ability of States with broad health insurance to combat the HIV epidemic”

#### **Brief of AARP et al.**

- Brief of AARP, National Health Law Program (NHLP), Services & Advocacy for GLBT Elders (SAGE), National Council on Aging (NCOA)
- Brief argues that adults between the ages of 50 and 64 face “special difficulties in obtaining adequate and affordable health insurance in the nongroup and employer-based markets,” and the ACA “reflects Congress’ chosen policies to address these problems.” “Among these interconnected reforms is the availability of federal tax credits to reduce premiums for individuals who buy insurance on the Exchanges.”
- “The text and structure of the ACA support the conclusion that premium tax credits were provided to incentivize *individuals to participate* in the individual health insurance market, not to incentivize states to establish Exchanges.”

#### **Brief of Public Health Deans, Chairs, and Faculty and the American Public Health Association**

- Brief of deans, departmental chairs, and faculty members of public health and public health law at some of the leading schools in public health in the United States, and of APHA, a national

organization representing a broad-based member community working to improve the public's health.

- Brief argues that eliminating credits in FFE states will have adverse effects on people who need health insurance the most, because “[t]hose receiving subsidies through the FFE are even poorer as a group than residents of states with SBEs,” and they are also in worse health: the “[p]reventable mortality rate is higher in the FFE states,” and “[d]iabetes, high blood pressure, and depression rates—all associated with premature mortality—are higher in the group of states whose residents depend on the FFE.”
- Brief notes that “a loss of health insurance by estimated 8.2 million persons can be expected to translate into over 9,800 additional deaths annually.”

#### **Brief of the National Education Association**

- Brief of the National Education Association
- Brief argues that “[t]he ACA makes clear that an ‘Exchange established by the State’ is a term of art, which includes all Exchanges, whether state-run or facilitated by the Federal Government,” and Petitioners’ contrary construction would “undermine key provisions of the ACA,” and “Petitioners’ construction would create serious constitutional problems” because the ACA would “amount to an unconstitutional effort to coerce States into action and could violate the principle that States are co-equal sovereigns who should not be treated differently by the Federal Government without sufficient justification”
- Brief argues that adoption of Petitioners’ reading would “have a profoundly harmful effect on working Americans and on their children educated in our Nation’s schools”

#### **Brief for National Association of Community Health Centers et al.**

- Brief for National Association of Community Health Centers, American College of Physicians, Inc., American Nurses Association, Association of Asian Pacific Community Health Organizations, and 23 State Primary Care Associations (i.e., a broad coalition of physicians, nurses, and health centers)
- Brief argues that “[i]f this Court were to hold that these subsidies are available only in States that have set up their own exchanges, the consequences would be devastating” because “[o]ver 8 million individuals would be unable to maintain their coverage,” and the “most severely affected would be patients of community health centers”
- Brief argues that community health centers were “to play an integral role in implementing the law,” and “[i]t would have made no sense for Congress to have invested heavily in expanding and building new community health centers only to have them financially hobbled by having to treat millions of new patients who could not afford insurance without subsidies”

#### **Brief of SEIU et al.**

- Brief of Service Employees International Union, Health Care Workers, and Health Care Consumers

- Brief argues that Petitioners’ “carrots” and “sticks” theory of congressional intent is contrary to the ACA’s text, history, and purpose. It also “turns the ACA into a statute that is arguably coercive and, at a minimum, disruptive of ordinary federal-state relations.”
- Brief notes that in the past when Congress has conditioned receipt of federal funds on state action, it has done so in far clearer terms than were used in the ACA.
- Brief presents significant evidence that Congress did not intend to use the credits as a carrot/stick, and the States did not understand the ACA to operate as Petitioners now argue

#### **Brief of Jewish Alliance for Law & Social Action (JALSA) et al.**

- Brief of Jewish Alliance for Law & Social Action (JALSA), Jewish Social Policy Action Network (JSPAN), Jewish Council on Urban Affairs (JCUA), Boston Alliance for Community Health, Lawyers’ Committee for Civil Rights and Economic Justice, and University of Pennsylvania, Boston University, UCLA, UNC, and Case Western Law Professors who teach and write on healthcare law, federalism, and constitutional law
- Brief argues that “[i]f any state were ineligible for subsidies, that state would be subject to the ACA’s intense market controls . . . without the offset of federally-enforced mandates” that are “trigger[ed]” by the tax credits, a regulatory mix that would produce “rampant adverse selection that shrinks or destroys individual insurance markets”
- Brief also argues that the “disparate geographic coverage” and the “threat of *regulatory* punishment for a state’s non-compliance with federal policy” inherent in Petitioners’ interpretation would render the ACA “constitutionally problematic” under recent Supreme Court precedent (i.e., *Shelby*, *NFIB*) and thus counsel against the Court interpreting the Petitioners’ interpretation

#### **Brief for Lambda Legal Defense & Education Fund, Inc. et al.**

- Brief for Lambda Legal Defense & Education Fund, Inc., Asian & Pacific Islander Coalition on HIV/AIDS, Black AIDS Institute, Gay & Lesbian Advocates Advancing LGBT Equality, HIV Prevention Justice Alliance, National AIDS & Education Services for Minorities, National Black Justice Coalition, National Minority AIDS Council, and Latino Commission on AIDS
- Brief explains the “devastating impact that withdrawal of ACA subsidies would have on people of color living with HIV and on their communities” because “access to healthcare dramatically improves the lives of individuals living with HIV”
- Brief argues that Petitioners’ interpretation of the ACA creates an “equal protection problem” because “[t]he level of government that sets up an exchange in a given state is irrelevant and invisible to those vulnerable consumers, and surely an irrational criterion on which to impose such a draconian consequence of making health insurance unaffordable”

#### **Brief of National Women’s Law Center et al.**

- Brief of over 50 advocacy organizations (primarily ones that work on women’s rights and health care) and health care providers

- Brief argues that “[w]omen have long faced great difficulty obtaining comprehensive, affordable health coverage,” “[m]any of the ACA’s key provisions were designed to remedy these disparities,” and the tax credits are critical to achieving those goals
- Brief “highlights the importance of [the] tax credits and presents the stories of just a few of these women—women for whom the tax credits have made the difference, enabling them to purchase adequate health insurance and receive much-needed care”

#### **Brief of Asian & Pacific Islander American Health Forum et al.**

- Brief of Asian & Pacific Islander American Health Forum, Asian Americans Advancing Justice | AAJC, Asian Americans Advancing Justice | Los Angeles, Association of Asian Pacific Community Health Organizations
- Brief argues that before the ACA, “[p]eople of color, including many Asian Americans, Native Hawaiians, and Pacific Islanders, disproportionately lacked resources to access affordable health care and thus were less likely to be insured than non-Hispanic white Americans,” and the subsidies are a “key component of Congress’s plan to reduce the number of uninsured Americans”
- Brief provides specific examples of individuals within the relevant communities who will be harmed if tax credits are not available on FFEs

#### **Brief of Maurice F. Baggiano, Esq.**

- Brief of Maurice F. Baggiano
- Brief argues that the ACA does not distinguish between state-run and federally-facilitated Exchanges

#### **Brief of David Boyle**

- Brief of David Boyle
- Brief argues, among other things, that Section 36B, read in context of the statute as a whole, supports the availability of tax credits on federally-facilitated Exchanges